IDG.net

Future Watch: Computers without clocks.

BlackBerry devices get a Good competitor.

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After THE Hype

E-PROCUREMENT **Three years after the much-hyped debut of Internet-based e-procurement systems, companies are electronically shopping and paying for a vast array of goods and services, from airplane parts and heating oil to temporary administrative and legal help.**

Zondra Brown, manager of business systems support at FedEx, says e-procurement has completely reinvented the buying process at the $20 billion shipping giant. Every single one of FedEx's e-procurement initiatives has paid for itself in less than a year, she says.

Story begins on page 33

Zondra Brown, FedEx

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Server Rivals Try to Rescue InfiniBand I/O Technology

High-speed interconnect gets boost from Dell, IBM and Sun; HP standoffish

BY BOB BREWIN

Server rivals Dell Computer Corp., IBM and Sun Microsystems Inc. last week temporarily put aside their differences and banded together to try to prop up InfiniBand, a high-speed I/O technology that has been hit by a string of high-profile vendor defections.

In a coordinated series of briefings, executives from Dell, Sun and IBM's server group reaffirmed their commitment to InfiniBand and outlined plans to deliver systems that support the emerging interconnect technology. They didn't disclose any specific shipment dates, but Dell and IBM are due to release InfiniBand-compliant hardware next year, and Sun plans to follow suit in 2004.

The united front came just one week after IBM itself dealt the latest blow to the technology by disclosing that its microelectronics division is dropping plans to develop stand-alone InfiniBand chips [QuickLink 35074]. That followed decisions by both Intel Corp. and Microsoft Corp. to reduce their development plans for InfiniBand, which is designed to let IT managers connect servers and storage systems at speeds starting at 2.5G bit/sec. and potentially going much higher.

Jimmy Pike, director of

InfiniBand, page 45

Microsoft Delays CRM Apps

Testing continues; vendor vows to ship product early in '03

BY MARC L. SONGINI

Corporate users who were hoping that Microsoft Corp. would put its promised customer relationship management applications under their Christmas trees this year are going to have to wait for a later delivery.

Microsoft last week disclosed that the version of the CRM suite for North American users, originally due to be released for manufacturing by year's end, is being postponed to early 2003. In addition, shipment of an international version that will be localized for different countries is now being delayed from the second quarter to the second half of next year.

David Thacher, general manager of the CRM unit within the software vendor's Microsoft Business Solutions division, downplayed the postponements and said the North

Microsoft CRM, page 14

MIDMARKET APPEAL
Microsoft CRM is expected to see initial demand from users at small and midsize businesses.

Costs Negate E-Learning ROI

Per-seat pricing poses problems for large companies, users say

BY THOMAS HOFFMAN
NEW YORK

E-learning systems, cited in a recent study as yielding great returns on investment, may not be so great after all.

Learning officers at two Fortune 500 companies last week pointed out a "gotcha" that can negate the returns cited in the September report: vendors' insistence on applying per-seat licensing contracts to companies with large numbers of potential end users.

In the study, Wellesley, Mass.-based Nucleus Research Inc. analyzed thousands of corporate IT projects and found that e-learning and

E-Learning, page 16

Recognize any of these issues? Or, perhaps, all of them? We thought so. Many of these issues can be relevant to your legacy desktop software; fortunately, many of them can be addressed by [illegible] Windows® XP Professional

Microsoft

@server

XEON

The new IBM @server BladeCenter.™ It's a sense and respond world. You need an infrastructure that is flexible, on demand. Now you can remotely deploy new servers in minutes, rather than hours or days.[1] Inside the new BladeCenter, individual blade servers can be hot-swapped in and out of a single chassis.[2] On demand. And because BladeCenter uses Intel® Xeon™ processor-based blades, you get flexibility without sacrificing the performance you need for your data center. The result is an incredibly dynamic systems environment, one that lets you scale out to add capacity, reconfigure on the fly and create an infrastructure with no single point of failure. To get an interactive demo on BladeCenter, or for special financing information, visit ibm.com/eserver/bladecenter or call 1 800 426-7777 and mention priority code 102AX004.

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In the Technology section: For many companies, it's time to upgrade that old ERP system. And like Pacific Steel's David Richards (left), they're finding that's not as difficult as upgrading the infrastructure underneath. **Page 23**

Great Deals!
In the Management section: There are bargains to be had through online auctions, but there are big risks, too. Some IT managers talk about their experiences. **Page 36**

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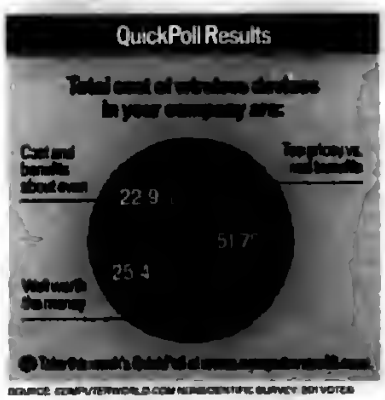
Win 2k or .Net?
KNOWLEDGE CENTER: Christopher Burry of Avanade, a Microsoft technology integrator, offers tips for deciding what steps to take when Windows NT 4.0 support runs out. QuickLink 35293

What's GNU?
An excerpt from *The Business and Economics of Linux and Open Source*, by Martin Fink, explains key terms you need to know when using or evaluating open-source software. QuickLink 35180



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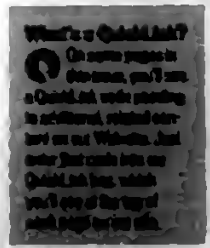

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AT DEADLINE

Audit Hits FBI on IT Management

The FBI is spending "hundreds of millions of dollars on IT projects without adequate assurance that these projects will meet their intended goals," according to an audit by the U.S. Department of Justice's Office of the Inspector General. The report said the FBI has failed to fully implement "management processes associated with successful IT investments," but it noted that the agency has committed itself to changing past practices.

Microsoft Links Outlook, Domino

Microsoft Corp. has released a software add-on that lets users of IBM's Lotus Domino e-mail server access messages through Microsoft's Outlook 2002 messaging client. Microsoft and IBM cooperated on development of the Outlook 2002 Connector, which offers an alternative to using IBM's Notes client. The add-on is free to all users with Outlook 2002 licenses, Microsoft said.

Sybase Agrees to Acquire AvantGo

Sybase Inc. announced a deal to buy AvantGo Inc., a Hayward, Calif.-based developer of software for linking mobile devices to corporate systems. Dublin, Calif.-based Sybase said it will pay $38 million in cash for AvantGo, which lost $15.5 million on revenue of $14.6 million through this year's third quarter. Sybase plans to fold AvantGo into its iAnywhere Solutions unit.

SAP to Phase Out Four R/3 Versions

SAP AG plans to discontinue regular maintenance on four versions of its R/3 business applications at the end of next year. But SAP will continue to provide limited technical support for the releases, the most recent of which is R/3 4.6b.

BEA Pushes Integrated App Development

Says upgraded WebLogic will cut cost of ownership, boost ease of development

BY MARC L. SONGINI

BEA SYSTEMS INC plans to enhance its product line in ways that will allow companies to more easily develop business processes that can span heterogeneous systems. And in the process, the middleware vendor is looking for an edge over rival IBM.

Last week, BEA detailed changes coming to its WebLogic Platform software, including the addition of a single interface that developers can use to integrate disparate applications and link them together with portal software.

Upgrades to the WebLogic Workshop development environment will allow developers to more easily invoke applications and access data to create business processes without touching the underlying software plumbing, said Mark Carges, president of San Jose-based BEA's Enterprise Framework division.

The enhancements, code-named Gibraltar, build on the next-generation WebLogic Platform 7.0, which was released this year and consolidates BEA's application server, portal and enterprise application integration products into a single offering, he said.

Counterclaims

The WorkShop development component in WebLogic 7.0 addresses the creation of Web-services-based applications. Its next iteration will let developers create workflows around disparate applications and portals with the same runtime framework and development environment, Carges said. Competitors, such as IBM, which offers the WebSphere platform, don't currently enable this breadth of function from one product, he added.

However, both IBM and Oracle Corp. claim to offer the same functions BEA is now rolling out.

Both WebLogic 7.0 and Gibraltar sound appealing for The Relizoo Co. in Dayton, Ohio, because they will deliver new capabilities to the company's developers, said Marge Putman, vice president of IT at the business-process outsourcing firm.

Relizon uses BEA WebLogic 6.0 to provide end users with portal-based connectivity to its homegrown back-office business applications. The company plans to move to Version 7.0 next year, but Putman said it isn't yet clear how far Relizon will go in adopting the Gibraltar technology. "At this point, we don't want to get locked into using components from only one vendor," she said.

Making Progress

The ability to let business-process-level developers write code hasn't really been addressed by the market thus far, said John Rymer, an analyst at Giga Information Group Inc. This move is significant on BEA's part, he said, and "is very critical to their continued progress." Such developers work at the level of business logic and don't want to deal with the lower-level plumbing and complexities of Enterprise JavaBeans or Java interfaces, Rymer said.

He added that although both Oracle and IBM do offer tool kits, "I don't see them targeting this community of developers the way BEA is." Typically, these developers turn to Microsoft Corp. tools, Rymer said.

The next version of WebLogic Platform, with the Gibraltar enhancements, is due in mid-2003. Pricing information isn't yet available, BEA said; WebLogic Platform 7.0 costs $90,000 per CPU. ▶

BEA Rocks With Gibraltar

The upgrades that are part of BEA Systems' Gibraltar initiative will:

ENHANCE the WebLogic Platform, converging enterprise application integration and development capabilities.

INCLUDE changes to the WorkShop development environment that will allow developers to create business processes that incorporate third-party and homegrown applications and portal access.

BE AVAILABLE in mid-2003.

Sun to Package Rival BEA's App Server With Solaris

Despite increased efforts to sell its own application server software, Sun Microsystems Inc. last week opened its arms a little wider to BEA Systems by agreeing to ship an evaluation copy of BEA's rival WebLogic Server with the Solaris 9 operating system.

Sun said it will include a six-month trial copy of WebLogic Server 7.0 with the next Solaris 9 upgrade, which is due to be released next month. BEA's software will join a basic version of Sun's application server software that comes for free with Solaris, as well as an evaluation copy of a more functional release of the Sun code.

Sun is a distant third in the application server software market behind BEA and IBM, and WebLogic Server has been a big seller on Sun's servers. But the relationship between the two companies took an unwelcome twist for BEA last spring when Sun announced that it would bundle the entry-level version of its Sun ONE Application Server with Solaris and make it a free download for other operating systems [QuickLink 30806].

John Rymer, an analyst at Giga Information Group, said that Sun is making a concession to BEA and to potential buyers of its hardware by agreeing to add the trial copy of WebLogic Server.

"I think Sun recognized what its real business interests are," Rymer said. "There was a rift over Sun's desire to have its own application server, and basically, cooler heads have prevailed." BEA is one of two software vendors – the other being Oracle – that have helped the most to drive sales of Sun servers, he noted.

"BEA's application server is a great product," Scott McNealy, Sun's chairman, CEO and president, said in a recent interview. "If there are some very high-end enterprise features that you need, it makes sense." But, he added, Sun's own software "might make more sense" for managing the bulk of Java-based applications because of its pricing and its upfront integration with Solaris.

The evaluation copy of WebLogic Server is for a single processor and 20 concurrent users, said Gamal Gran, vice president of strategic alliances at BEA. The software vendor earlier this year signed a similar deal with Hewlett-Packard Co., which includes a trial version of WebLogic Server with its Unix systems. But the vast majority of BEA's software runs on Sun boxes, Gran said.

– Ashlee Vance and James Niccolai, IDG News Service

Vendor Group Proposes New Set Of Web Services Specifications

IBM and Microsoft spearhead effort to create security, business policy standards

BY CAROL SLIWA

A group of vendors led by IBM and Microsoft Corp. last week released a set of proposed specifications aimed at helping companies use Web services to securely share information with business partners.

The release marks another step in a broad plan the vendors outlined in April to address security concerns that many corporate users have raised about Web services, which can be used to exchange data between disparate systems through XML-based messages sent via the Simple Object Access Protocol.

The latest specifications focus on security and business policies, such as what type of authentication token a company accepts or what type of customers can access a particular Web service. The other vendors involved in developing the specifications are San Jose-based BEA Systems Inc., Bedford, Mass.-based RSA Security Inc., SAP AG and Mountain View, Calif.-based VeriSign Inc.

Plans call for the specifications to be revised and submitted to a standards body after a public review and comment period, says Karla Norsworthy, director of dynamic e-business technologies at IBM. The group's initial WS-Security specifications were handed off to the Organization for the Advancement of Structured Information Standards in Billerica, Mass., in June.

The vendors are expected to eventually support the specifications in their products, so corporate users won't have to worry about implementing them on their own. The companies have yet to disclose specific plans and timetables.

Steve Sommer, CIO at New York-based law firm Hughes, Hubbard & Reed LLP, said he's happy simply to see IBM and Microsoft finding some common ground where they can work together, since he remembers the days when one or the other would push its own technology protocols.

"Because those two are together, all the others will follow suit," Sommer said. His firm hasn't yet started to use Web services, but he said he can foresee them becoming important in facilitating data-sharing with legal clients, particularly ones that run different systems than the firm's.

MORE THIS ISSUE
Sun's Web services point man discusses the company's increased role in standards efforts. See Q&A on page 17

Norsworthy said IBM plans to incorporate the infrastructure that supports the descriptions of various business policies into its WebSphere and Tivoli product lines. She said the ultimate goal is to allow one Web service to send its policies to another and then establish communications.

Similarly, the security specifications are designed to help companies with disparate IT security infrastructures establish so-called trust relationships for communicating via Web services, she added.

Pierre Fricke, an analyst at D.H. Brown Associates Inc. in Port Chester, N.Y., called the publication of the proposed specifications an "important progress point" for Web services security. Fricke said he expects products that support the specifications to emerge in the second half of 2003.

One of the questions facing IT managers is how long they must wait before they can really use Web services to guarantee interoperability in corporate and business-to-business applications, said Jason Bloomberg, an analyst at ZapThink LLC in Waltham, Mass.

The new specifications fill in "more pieces of the puzzle," Bloomberg added. "The puzzle is not complete. But this is going to make it easier." ▶

A Look at The Proposed Specifications

SECURITY

- **WS-Trust:** describes a framework for establishing trusted relationships so Web services can securely interoperate.
- **WS-SecureConversation:** sets methods for establishing a secure context for exchanging multiple messages.
- **WS-SecurityPolicy:** details security policies that can be associated with individual Web services.

BUSINESS POLICIES

- **WS-Policy:** lets senders and receivers of Web services communicate their requirements and capabilities.
- **WS-PolicyAttachment:** aims to create a standard way to attach requirement and capability statements to Web services.
- **WS-PolicyAssertions:** describes general policies that can be associated with specific Web services.

FreshWater's SiteScope Watches Web Services

Monitoring tool can diagnose problems, send failure alerts

BY MATT HAMBLEN

Freshwater Software Inc. last week released a new version of SiteScope, its Web monitoring product, with the ability to monitor Web services infrastructures.

Version 7.6 supports several Web services-related standards such as XML, the Simple Object Access Protocol (SOAP) and the Web Services Description Language (WSDL), said officials at Freshwater in Boulder, Colo.

The update includes a single tool for monitoring Web services and 65 other infrastructure components and applications. The product is designed so that alerts can be set for Web services failures and network managers can run a diagnosis of problems when they occur. No special SiteScope agents need to be installed at network components, Freshwater said.

Developers at West Group in Eagan, Minn., are looking into the SiteScope Web services monitor for possible deployment by mid-2003 for internal applications, said Jason Duppong, a senior systems engineer at the online business and legal information services and publishing company. West Group is a division of The Thomson Corp. in Toronto.

"Web services are still new enough that [the monitoring tool] isn't being widely used yet," Duppong said.

At InfoSpace Inc. in Bellevue, Wash., Web services monitoring with SiteScope is being tested and should go into production use in the company's network operations center by February, said Ken Zonca, InfoSpace's production engineering manager.

InfoSpace provides a variety of Web-based services to wireless companies, including Web-based telephone directories that are supplied to clients and rebranded. Moving various kinds of data from an InfoSpace database to a customer's Web application involves Web services technologies, and Zonca said SiteScope's monitoring tools should help guarantee that the InfoSpace service is operating properly.

"We need to validate that our service is up and running within the agreements we have with various companies," Zonca said. Freshwater has a more comprehensive product for monitoring Web services than the network monitoring tools its competitors have come up with, he added.

Bill Gassman, an analyst at Gartner Inc., said there's "nothing magic around what Freshwater is doing" by adding Web services monitoring to SiteScope, although it's one of the first companies to do something like that.

Sunnyvale, Calif.-based Mercury Interactive Corp., Freshwater's parent company, and Waltham, Mass.-based Empirix Inc. also provide Web services monitoring products, Gassman said. He said he expects products from major network management vendors such as IBM's Tivoli unit and Hewlett-Packard Co. to eventually do so as well. ▶

AT A GLANCE

SiteScope 7.6

USES what Freshwater calls "agentless" monitoring, meaning users don't need to load SiteScope agents on network nodes. SiteScope searches for monitoring agents previously installed on network nodes by the equipment manufacturers and reports the results of that monitoring.

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BRIEFS

IBM Signs IT Deal With German Bank

IBM and Deutsche Bank AG said they have finalized a 10-year IT outsourcing deal that's valued at about $2.5 billion. IBM will take over management of the bank's data centers and smaller server sites in Europe, and about 900 Deutsche Bank IT workers will switch companies. Deutsche Bank in September said it was planning to sign a deal with IBM [QuickLink 33157].

WorldCom Signs Agency Pact . . .

WorldCom Inc. announced a 10-year contract to provide data communications services to the U.S. Department of State. WorldCom said the agreement, valued at up to $360 million, calls for the struggling network operator to provide IP and Asynchronous Transfer Mode services over international private lines and satellite links to State Department facilities worldwide.

. . . And Seeks to Settle With EDS

In internal matters, WorldCom reached a tentative agreement with Electronic Data Systems Corp. under which EDS would pay it $107 million to settle a dispute over an outsourcing deal. A U.S. Bankruptcy Court judge is expected to rule on the settlement today. WorldCom also said six of its 10 board members have resigned in connection with the recent hiring of Michael Capellas as chairman and CEO.

Short Takes

Dallas-based AFFILIATED COMPUTER SERVICES INC. announced a 10-year IT outsourcing deal with SIRVA INC., a Naperville, Ill.-based moving and logistics conglomerate. . . . Uppsala, Sweden-based MYSQL AB said it has patched two holes in its open-source database.

MARK HALL • ON THE MARK

Unisys Defies McNealy Quip With Intel . . .

. . . processors and Windows, making RISC and Unix true believers reconsider their views. Back in the 1980s, when Burroughs and Sperry merged to form Unisys Corp., the newly minted company's tagline was "the power of 2." Blue Bell, Pa.-based Unisys had a shaky start and a sinking stock price, prompting Sun Microsystems Inc. CEO Scott McNealy to sarcastically remark, "Who would have thought the power of two would be its stock price?" Today, the tables have turned. With $6 billion in revenue this year, Unisys' stock hit a 52-week low of about $6 per share this year, while the price of Sun's stock sunk to less than two and a half bucks. However, **Sun has worse problems than irony, or karma** if you prefer, because Unisys ES7000 servers loaded with as many as 32 processors running Windows Datacenter Server and SQL Server 2000 are beginning to win over experienced Sun users. Take Larry Godec, CIO at $4 billion First American Title Insurance Co. in Santa Ana, Calif.

Godec's 32-processor ES7000 has just hit the 10,000-daily-user mark running the company's most important application, a property title-search program that goes against a 400GB database and 2TB data warehouse. First American previously used an eight-CPU HP-UX box but ran out of gas and began rolling out the ES7000 in June. Godec isn't a Windows bigot. He came to First American midway into the project from managing IBM OS/390 and Sun E10000 systems and was immediately concerned about the scalability of the ES7000 and Windows. No longer. The title-search application averages only about 50% utilization of the ES7000's CPUs, giving Godec lots of headroom and a new appreciation for Intel-based systems. **"It closes the gap in my perception of enterprisewide, mission-critical applications** in the data center," he says. "Next time, I'd look hard at the price points, since the scalability issue is answered because, yeah, I've done it." • **It's getting down and dirty in the CRM** playpen. NetLedger Inc., a San Mateo, Calif.-based developer of online customer relationship management (CRM) applications for small-business users, announced that it has begun stealing customers from its ASP archrival Salesforce.com Inc. in San Francisco. Salesforce.com CEO Marc Benioff dismisses the PR assault as "mere marketing," something the folks at CRM market leader Siebel Systems Inc. have accused him of more than once. NetLedger also knowingly asked whether Salesforce.com would hit its promised delivery of an accounting module this month, as detailed in this column [QuickLink 33689]. Benioff admits that won't be happening and now says that an alpha-test version of the software will be available in March. Maybe NetLedger CEO Zach Nelson thinks these hardball tactics can work as well for his company as they have for Salesforce.com, which, Benioff boasts, is on track for $100 million in annual sales and has 330 employees — making it one of the biggest ASPs renting software online, if not the biggest. Oddly enough, the ping-ponging of users between NetLedger and Salesforce.com helps both companies because it **proves the concept of the low risk** and high flexibility that online CRM software offers compared with licensed applications. Late software, however, is always a drag. • **And speaking of late CRM software,** Microsoft Corp.'s upcoming CRM software missed its promised Q4 ship date (see story, Page One). Once the software does ship, it will be offered by a few select service providers for online rentals. But Microsoft's preference will be for you to license it for in-house use. Why? Because you'll also need to buy Windows 2000, SQL Server 2000, IIS, Passport, BizTalk and other software that **will make a loud "ka-ching" in the company's crowded coffers.** However, the CRM software is being slammed by competitors before it even generates its first buck. Keith Raffel, chairman of Mountain View, Calif.-based UpShot Corp., said he fears that Microsoft's product "will give a black eye to the entire CRM industry. . . ." Ouch. **This market is not for the thin-skinned.** ◗

SBC, Cisco Join Forces to Deliver Managed Services

BY MATT HAMBLEN

SBC Communications Inc. and Cisco Systems Inc. last week unveiled an agreement to deliver managed business services combining Cisco's equipment with SBC's transport and networking expertise.

The first managed service to be offered under the agreement is SBC Managed IP-VPN, which is now available, the companies said. In 2003 and 2004, the companies will deploy the following services: Fully Managed AVVID (Architecture for Voice, Video and Integrated Data), Ethernet Optical Network, Managed Security, Network-based IP-VPN, Wireless LAN and Managed Hosting.

The Managed IP-VPN offering will be hardware-based and managed end to end from a telecommuter's desktop or device into the corporate intranet, the companies said. It will be bundled with dedicated Internet access, Digital Subscriber Line or dial-up Internet access.

Industry analysts said the Cisco alliance will help San Antonio-based SBC grow beyond its present market region of 13 states in the Midwest and West. SBC now has long-distance approval in seven states, with California added last week [QuickLink 35316].

"This partnership will let Cisco sell more gear through SBC and let SBC service the managed network services needs of large businesses," said Jeff Kagan, an independent telecommunications analyst in Atlanta.

Kagan said Cisco could use the alliance as a "launching pad" to start doing the same thing for other regional Bell operating companies (RBOC) around the U.S., since Cisco isn't tied exclusively to SBC.

Cisco has been looking for a way to ally itself with RBOCs and independent local exchange carriers, and this might be the model it has been looking for, he said.

Sandra Palumbo, an analyst at The Yankee Group in Boston, said all major carriers offer managed services. "Does this alliance with Cisco put SBC any further ahead, or is this anything ground-shaking? No," she said. ◗

Analysts estimate that 40% of IBM's operating profits are from mainframe software and maintenance*

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Federal Labyrinth Stifles IT Vendors

New homeland security department looks to streamline buying procedures

BY PATRICK THIBODEAU

THERE'S NO shortage of words to describe what it's like for a small technology vendor to try to sell products to the U.S. government. The process is frustrating, aggravating and sometimes hopeless, say vendors that have struggled to get their hardware and software approved for purchase by federal agencies.

GOVERNMENT IT PROCUREMENT

But now the new U.S. Department of Homeland Security, which will combine 22 agencies under a single organizational structure, must grapple with the complex relationship vendors have with the government.

Streamlining the process of getting new technologies approved for purchase is a "top priority," said a government official who asked not to be identified. But the agencies that will be folded into the new department haven't decided how to proceed, the official added.

The Homeland Security Department will have to set up a dedicated capability "to evaluate ideas that come in off the street, in effect," said Steven Kelman, former federal procurement policy administrator at the Office of Management and Budget. Kelman is now a professor at Harvard University's John F. Kennedy School of Government in Cambridge, Mass.

"I'm sure there are going to be a few [product proposals] that will be fantastic, and it will be terrible for the government not to take advantage of them," Kelman said.

Take Barrington, Ill.-based Bodacion Technologies, for example. "We didn't even know that we had to be on a list initially. There are so many lists that it's mind-boggling," said Eric Uner, cofounder of Bodacion, which makes a hacker-resistant Web server called Hydra that has no operating system and no root level for attackers to try to take over.

A Helping Hand

But Uner's company ended up being one of the lucky ones.

He said a worker in the National Security Agency's Security Proof of Concept Keystone (SPOCK) program, which provides a forum for vendors to demonstrate products to government agencies, saw a presentation about Hydra and was intrigued by Bodacion's technology.

The SPOCK program put Uner in touch with the right officials at the General Services Administration (GSA), which runs the Sears-catalog-like purchasing schedule that federal agencies use. Bodacion is now involved in a special GSA program for vendors of security technology, called Safeguard, and Hydra is being piloted by some agencies, Uner said.

George Molaski, former CIO at the Department of Transportation and now president and CEO of Falls Church, Va.-based consulting firm E-Associates LLC, said government agencies may be interested in buying new technologies offered by vendors. But it can take more than a year to secure funding for purchases, he added.

Sometimes, just collecting money that has been promised by the government can be a challenge for vendors.

"We spent many days every month going down [to federal agencies] with our invoices, walking through this incredible Byzantine system to get paid," said Jack Hermansen, CEO of Language Analysis Systems Inc. The Herndon, Va.-based company develops systems to help match names with ones on government watch lists even if the spellings differ. ▶

Selling to Uncle Sam

COSTS: It can be expensive. High-tech systems in the security area may need certain certifications, such as Common Criteria, a standard for testing the security of products. Vendors have to pay for private labs to conduct tests and then send the results to the National Institute of Standards and Technology for validation. It can cost as much as $1 million to meet this requirement.

EXPERT HELP: Many vendors hire consultants and other experts to provide the tools and contacts to reach federal agencies.

BUSINESS NEEDS: Many federal agencies detail business needs on their Web sites.

PATIENCE: A federal agency may gush over a vendor's technology, but it could still take a year or more before it has the money to buy it.

Bush's Cybersecurity Plan Falls Short, Report Says

Reliance on market forces faulted

BY DAN VERTON
WASHINGTON

A congressionally appointed panel last week delivered a report to President Bush calling the federal government's incessant focus on public/private partnerships to improve cybersecurity an inadequate solution.

In its fourth annual report, the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction, also known as the Gilmore Commission, called the draft strategy for securing cyberspace that the Bush administration released in September "a small step" in the right direction. But the panel also pointed to what it considers to be flaws.

"The draft strategy poses what we view as voluntary, tactical responses to an inherently strategic problem of national importance," the panel stated in its report.

Leap of Faith

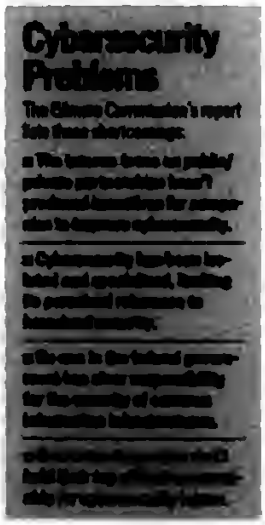
The report also faulted the administration's plan because it "relies on private-sector willingness to take certain security measures and bear their costs and chooses not to use government's power to legislate, regulate or otherwise require certain actions."

According to the report, the government hasn't exercised any of its powers over companies on cybersecurity issues, "other than persuasion." And that approach simply isn't working, said former Virginia governor James S. Gilmore III, the advisory panel's chairman.

"Pure public/private partnerships and market forces are not acting at this point to protect the cybercommunity," Gilmore said. He said there's also a need for more focus on burden-sharing between the public and private sectors, and on liability issues.

The panel also criticized the government for separating cybersecurity from the physical aspects of critical infrastructure protection and for failing to hold agency heads responsible for internal cybersecurity lapses. "There are little or no consequences for federal government agencies and officials who do not take prudent steps to improve cybersecurity," the report claimed.

However, Ron Dick, who is retiring this month as director of the FBI's National Infrastructure Protection Center, said the Gilmore Commission failed to acknowledge the significant progress that has been made on cybersecurity issues.



"The key to all of this is trust," said Dick, referring to the ability of the government and companies to cooperate on cybersecurity protection. "And trust is not something you can legislate or regulate. It's something that occurs over a period of time by working together."

"It's unfortunate that the Gilmore Commission would criticize our strategy without first having come to talk to us about it," said Richard Clarke, chairman of the President's Critical Infrastructure Protection Board. There are legitimate concerns that dictate against regulating corporate approaches to cybersecurity, including the potential for creating a homogeneous security architecture that's easier to attack, Clarke said. ▶

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Upstart Targets BlackBerry With E-Mail Paging Device

Provisioning software, ease of use key to deal with initial user of Good's G100

BY BOB BREWIN

GOOD TECHNOLOGY Inc. last week officially launched its G100 e-mail pager hardware and said that it has already landed an order for 1,200 of the devices from a law firm, heating up its competition with rivals Research In Motion Ltd. (RIM) and Palm Inc.

Sunnyvale, Calif.-based Good Technology said it's selling the G100 through Atlanta-based Cingular Wireless for $399. Cingular will charge $34.99 per user monthly for up to 1MB of data delivered over its 9.6K bit/sec. Mobitex network and $39.99 per user monthly for 2MB of data. Corporate users also need to buy Good Technology's server software, which synchronizes with Microsoft Outlook e-mail and calendar systems and is priced at roughly $2,000.

Cingular also sells a similar model, the $299 BlackBerry 957 e-mail pager, from Waterloo, Ontario-based RIM. Good Technology initially developed its software to run on BlackBerry devices, a move that has led to extensive litigation between the two companies.

TCO Factors In

Mark Samuels, a partner at law firm O'Melveny & Myers LLP in Los Angeles, said ergonomics and the total cost of ownership, not the purchase price of the devices, were key factors in the firm's decision to buy the G100 for use in its nine domestic offices. The e-mail pagers will eventually be rolled out in O'Melveny & Myers' four overseas offices, he added.

Samuels said 15 employees tested the G100 along with Palm and BlackBerry devices and "overwhelmingly" endorsed the Good Technology device.

Although the G100's screen is slightly smaller than the one on the BlackBerry 957, Samuels said, its resolution is crisper. The testers also gave high marks to the G100 keyboard and its scroll bar, according to Samuels.

Rob Lontok, O'Melveny & Myers' project management officer, said the firm chose the G100 because it also supports remote provisioning, which lets him install and configure the device's software from his Los Angeles office for users around the country. To set up BlackBerry pagers, each one has to be synchronized via a cradle with a user's desktop PC, Lontok said. That procedure could take 20 to 45 minutes per user, he noted.

RIM's Offering

RIM officials weren't available for comment on Good Technology's rollout last week. Alex Slawsby, an analyst at IDC in Framingham, Mass., said he expects RIM to introduce its own remote-provisioning system early next year. That would take away some of Good Technology's competitive advantage, Slawsby said.

Ken Dulaney, an analyst at Gartner Inc. in Stamford, Conn., said the G100 is a better device than the BlackBerry 957 at this point.

"My only concern is what happens to [the G100] in the long term," he added. "I don't think Good is a hardware player."

Even though Cingular's Mobitex network runs at one-quarter the speed of its General Packet Radio Service cellular data network, Samuels said, Good Technology's compression techniques can handle fairly large e-mail attachments.

But he added that he waits to read long legal briefs until he can download them on a laptop or desktop PC because of the slow network speed and the G100's thumb-operated keyboard. ▶

Selecting an E-Mail Pager

Law firm O'Melveny & Myers chose the Good Technology G100 over the RIM BlackBerry based on the following factors:

- Quick and easy setup and software provisioning of devices from a central location for geographically scattered users, saving IT staff time and money.
- Built-in software that automatically converts attachments, such as PDF files, to text.
- Superior ergonomics and screen.
- Small size makes it easy to wear on belt; high-resolution screen makes text easy to read.
- Easier-to-use keyboard and scroll bar.

Sony's S-AIT Tape Gets Jump on Competitors

1TB tape drive technology tops SDLT, LTO units on data capacity

BY LUCAS MEARIAN

Sony Corp. last week announced the first tape drive and cartridge that breaks the 1TB capacity barrier. The Super Advanced Intelligent Tape (S-AIT) technology leapfrogs two rival tape drive formats by at least six months, based on those companies' development road maps.

Sony's Tape Storage Solutions division in San Jose said its S-AIT drive and cartridge, which sports a 500GB native capacity and a 1.3TB compressed capacity, will begin shipping this month to original equipment manufacturer partners.

S-AIT uses Sony's midrange AIT technology, but in an extended 5.25-in. drive footprint. As an example of the capacity of an S-AIT tape configuration, a 100-cartridge library could store up to 130TB of data. Stand-alone S-AIT drives are expected to be priced at $10,000, and automation-ready drives will start at an estimated $13,000, Sony said.

Sony's announcement follows moves by other vendors that are racing to release high-capacity tape cartridges and faster tape drives.

Milpitas, Calif.-based Quantum Corp. announced earlier this month that it intends to grow its Super Digital Linear Tape (SDLT) product to 600GB of compressed storage capacity and a 64MB/sec. data transfer rate by mid-2003. Currently, SDLT drives can store up to 320GB of compressed data.

IBM, Hewlett-Packard Co. and Seagate Technology LLC are the market leaders in super-tape-drive technology, with linear tape-open (LTO) products.

Last month, HP shipped the first version of a second-generation LTO product that has a 400GB compressed data capacity and 60MB/sec. throughput. Another version isn't expected for another six to nine months. Sony's S-AIT drive has a transfer rate of up to 78MB/sec. with compressed data.

Rubert Amatruda, an analyst at IDC in Framingham, Mass., said that from a technology standpoint, Sony's product is "a significant improvement from anything out there right now."

"The key for Sony is to work on bringing the technology mainstream," he said, referring to the need for the company to market the new drive to vendors of tape libraries.

Because S-AIT, SDLT and LTO 2 all come in half-inch form factors, library manufacturers such as Storage Technology Corp. and ADIC Corp. can easily modify their products to work with any one of them, Amatruda said.

Bob Abraham, president of storage market research firm Freeman Reports in Ojai, Calif., said Sony faces a tough climb in gaining converts to the new technology. Sony must prove S-AIT's reliability and successfully market it — something the company didn't do well with its older AIT product outside of the Asia-Pacific region, Abraham said.

"This is an entirely different marketplace than AIT," he said. "It's the next level up." ▶

The Tape Wars

Tape storage vendors currently offer the following options:

HP StorageWorks Ultrium 460 tape drive (LTO 2)
- 400GB compressed capacity and data transfer rates of 60MB/sec. (IBM and Seagate also sell LTO tape products.)

Sony's S-AIT drive
- 1.3TB compressed capacity and data transfer rates of 78MB/sec.

Quantum's SDLT 320 drive
- 320GB compressed capacity and data transfer rates of 32MB/sec. (Quantum said this month that it will increase capacity to 600GB and transfer rates to 64MB/sec. by mid-2003.)

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BRIEFS

Oracle Continues Slide, Plans Cuts

Oracle Corp. reported its sixth straight quarter of declining financial results and said it plans to make a small number of additional layoffs. The cuts will affect about 200 workers, said Oracle, which is also splitting its sales force into separate units for its databases and applications. Oracle said it earned a $535 million net profit on revenue of $2.31 billion in its second quarter, which ended Nov. 30.

AOL Gets Instant Messaging Patent

America Online Inc. disclosed that it has been awarded a U.S. patent for instant messaging systems, but AOL declined to comment on whether it plans to try to enforce the patent against rival vendors. AOL's ICQ Inc. online chat subsidiary applied for the patent in 1996, two years before it was acquired by AOL.

Bank, Unisys Sign Outsourcing Deal

Washington Mutual Inc. in Seattle said it has signed a seven-year IT and business-process outsourcing deal worth about $400 million with Unisys Corp. Unisys will host and manage a new check processing and imaging system for the bank. The imaging technology is due to be piloted during the first half of next year and put into production use in late 2003, the bank said.

Short Takes

Ottawa-based COGNOS INC. announced a deal to buy ADAYTUM INC., a Bloomington, Minn.-based vendor of business planning software, for $160 million in cash. . . . VERITAS SOFTWARE CORP. in Mountain View, Calif., said it's buying developers of application performance management and server provisioning software in a pair of deals worth a total of about $600 million.

Continued from page 1

Microsoft CRM

American release of the CRM software is in the final stages of testing. The delay on that release will last only a matter of weeks and is being caused partly by holiday season vacations, he said.

Microsoft is addressing only a few routine bugs that were found in initial testing by users, Thacher said. He added that another round of user tests will start in early January.

Microsoft CRM is being developed from scratch and will be the company's first full foray into that software market. The applications are being designed for companies with up to several hundred employees and are due to include a variety of CRM functions, as well as tight integration with Microsoft Office and the company's other business applications (see box).

Credibility at Stake

Erin Kinikin, an analyst at Giga Information Group Inc. in Cambridge, Mass., said Microsoft has to ensure that the quality of the CRM software is rock-solid or else risk losing credibility with potential users.

"If Microsoft can ship a quality release with the functionality they've promised by the end of January, they can probably declare victory, at least for the English-speaking world," she said.

But the real impact of the delays is on the international release, Kinikin said, adding that Microsoft initially had set a first-quarter shipment date for that version. "Microsoft can't even get in the game in most countries until they have a localized version," she said.

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Microsoft CRM has several shortcomings that the company needs to address, according to Cheryl Kingstone, an analyst at The Yankee Group in Boston. For example, the applications lack customization features and the ability to handle complex workflows, Kingstone said. In addition, companies that want to integrate the CRM software with Microsoft's Great Plains and other back-office applications will have to use the vendor's BizTalk integration server, she said.

However, a Microsoft spokesperson said the initial release of Microsoft CRM will support user interface modifications and other basic customizations as well as more complex changes, such as the addition of Web services and other extra functionality. The applications also will be able to support workflow needs specific to midsize users, the spokesperson added.

Microsoft plans to bundle BizTalk Server 2002 Partner Edition with the Professional version of the CRM software for integration uses, according to the spokesperson.

The CRM and back-office applications currently require their own databases, which have to be manually synchronized, said Tom Racca, vice president of sales and marketing at NetSolutions Inc. in Westboro, Mass.

NetSolutions, which makes telecommunicatinns equipment, has been beta-testing Microsoft CRM since August and put the software into production use by 10 end users last month, Racca said. The company also uses Microsoft's financial and order-administration applications.

However, Racca added that Microsoft has told NetSolutions that it plans to more tightly integrate the two sets of applications. That would be a step forward, Racca said. On the plus side, the current beta-test release of the CRM software does provide users with real-time access to customer-related data, he noted.

For example, sales and support workers at NetSolutions can walk into a customer's office, start up the client version of the software and get up-to-the-minute account data, Racca said.

PRODUCT DETAILS

Microsoft CRM

- The software will include a **sales module that automates tasks such as account-tracking** and order management, plus a separate module for managing customer service operations
- End users will be able to **access the CRM applications in Windows through Microsoft's Outlook e-mail** software or via the company's Internet Explorer Web browser
- **Pricing starts at $395 per user** plus $995 per server for the standard sales module. A Professional Suite costs $1,295 per user plus $1,990 per server

Microsoft CRM Product Has a Low-End Look, Say Analysts

When Microsoft last February announced its plans to enter the CRM market, the initial thinking was that the move could spell trouble down the road for top-tier vendors such as San Mateo, Calif.-based Siebel Systems Inc. But analysts, rivals and Microsoft itself say that for the time being, Microsoft CRM will appeal mainly to low-end users.

That part of the CRM market is highly fragmented and largely untapped by software vendors, according to Access Markets International Partners Inc., a New York-based IT market research and consulting firm. The company said that only about 10% of small and midsize businesses in the U.S. are using sales force automation or CRM applications, many of which are homegrown systems.

One big potential advantage for Microsoft is the seamless integration that it's promising between the CRM applications and Office. Microsoft CRM "almost looks like Outlook," said David Root, chief financial officer and head of IT at Eagle's Flight Creative Training Excellence Inc., a corporate training company in Guelph, Ontario.

Eagle's Flight is a longtime user of the Great Plains business applications Microsoft acquired last year. For CRM, Eagle's Flight has been using a version of Siebel's software that Great Plains sold as part of a deal that ended in August.

Although Microsoft still supports the Siebel software, Root said he plans to migrate to Microsoft CRM, probably toward the end of next year.

There are a few features in the Siebel applications that Root said he would like to see added to Microsoft CRM, including integration links to other software. Once those are in place and any early kinks are worked out, Root said he expects to switch to Microsoft CRM.

Chad Pomeroy, chief technology officer at Alexandria, Va.-based Lumenos Inc., in August decided to buy CRM software developed by San Francisco-based Salesforce.com Inc. Lumenos, which offers health care programs to employers, needed basic CRM functions, and Pomeroy said the company is happy with Salesforce.com's technology. But if Microsoft CRM had been available, he added, he likely would have evaluated it.

Microsoft's upcoming entry is likely to help rival CRM vendors more than it hurts them, according to Jim Shepherd, an analyst at Boston-based AMR Research Inc. "Some niche vendors could find themselves displaced," Shepard said. "But for the most part, this is probably good news."

– Stacy Cowley, IDG News Service

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To me, success is a 35 minute lunch.

At a restaurant, not my desk.

Means I'm not wasting time doing the same data management task again and again and again and...well, you get it.

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CFOs Open to Softer Benefits on IT Projects

Survey says financial returns often hard to pinpoint for customer-centric systems

BY THOMAS HOFFMAN

Chief financial officers usually focus on hard numbers, but they're willing to be more flexible about the softer returns that customer-centric technology investments are able to deliver, according to the results of a new study.

To some extent, CFOs are forced to take softer benefits into account because it can be hard to measure whether investments in technologies such as customer relationship management (CRM) systems have increased customer satisfaction, said Dave Martin, senior vice president of finance and treasurer at Charles Schwab & Co. in San Francisco.

To make some of those determinations, "we'd have to hire a team of Ph.D.s to analyze whether they'd been achieved," Martin said. He was one of 231 CFOs and 73 CIOs who participated in a survey about customer-oriented technology spending released this month by Westport, Conn.-based Saugatuck Technology LLC and Boston-based CFO Research Services Group.

Gauging Success

Dick Warren, CFO at Olympic Health Management Systems and Services Inc. in Bellingham, Wash., noted that putting too much emphasis on getting hard-dollar returns from CRM applications and other customer-focused technologies may be misguided.

"If you're looking at a CRM system to reduce customer service staff, that may show huge returns financially, but your customers may be horribly disappointed," Warren said. Olympic Health Management is a subsidiary of insurer Aon Corp. that develops and administers Medicare health plans for senior citizens.

Olympic installed call center technology two years ago and has also invested in sales force automation tools. Although the direct payback has been tough to quantify, Warren said the call center system has helped reduce head count in for those operations by 11%. But Olympic has also been able to increase customer service levels over the past 18 months, he added, citing that as a softer benefit.

"We've seen a shift away from accounting-driven cost-management bias to a more balanced approach that looks at both financial and non-financial metrics when assessing the value that [customer-centric technologies] can deliver," said Bill McNee, founder and managing director of Saugatuck Technology.

There's a good reason for that shift, he added: Investments in technologies such as customer self-service software or sales force automation tools don't necessarily translate into direct financial returns.

The survey results also suggest that many CFOs are becoming more open to the idea of considering the nonfinancial benefits of all types of IT investments, a point that hit home with Carl Ascenzo, CIO at Blue Cross and Blue Shield of Massachusetts Inc. in Boston.

"I think our financial [department] is very good at finding the balance between the hard benefits of cost expenditures and nonfinancial, or soft, benefits," Ascenzo said. He listed improvements in strategic positioning and in relationships with customers as examples of softer paybacks.

Ascenzo and the other executives interviewed last week also said they agree with McNee's assessment that the integration of customer databases could unlock the greatest value for companies in the future.

"One of the challenges we're continuing to grapple with is having a 360-degree view of the client," Martin said.

Different Perspectives

WHICH CUSTOMER-CENTRIC TECHNOLOGY DELIVERS THE BEST PAYBACK?

	CFOs	CIOs
Contact/call center applications	20%	16%
Integration of customer databases	13%	13%
Sales force automation tools	13%	16%
Customer self-service software	13%	19%
Improved decision-making capabilities	7%	3%
Data mining installations	7%	4%
Others	27%	29%

BASE: 231 CFOs and 73 CIOs who were surveyed from September to November

SOURCE: SAUGATUCK TECHNOLOGY LLC, WESTPORT, CONN. CFO RESEARCH SERVICES GROUP, BOSTON

Continued from page 1

E-Learning

e-business integration were the technologies that yielded the highest returns [QuickLink 32707]. But the findings may not have told the whole story.

Per-seat licensing of e-learning applications "remains a bone of contention between customers and vendors," said Peter M. Jones, vice president of e-learning at J.P. Morgan Chase & Co. in New York. When investing in the technology, Jones said, "you don't know if every single potential end user is going to use the system or whether they might use just a portion of it."

As with other types of software investments in which utilization rates are uncertain, using back-end reporting tools to determine usage levels on e-learning systems can be a handy option, said Pauline Morris, vice president of human resources, learning and development at New York-based Axa Financial Services LLC. But, she added, "we don't want to be the testing police."

Morris and Jones spoke with *Computerworld* last week prior to participating in a panel discussion here on corporate training strategies and the potential ROI of e-learning systems. The discussion was hosted by MetroSet, a user association focused on training technology that is open to learning officers in the New York area.

E-learning vendors need to understand that "you're not just selling a library of courses," said Rhoda Cahan, president of MetroSet and vice president of learning services at Computer Generated Solutions Inc. in New York.

"You need to have a strategic sales approach that benefits the customer's organizational structure," said Cahan, adding that some vendors are becoming more flexible with their e-learning software licensing.

One way to resolve the issue of per-seat pricing vs. a contract based on the content provided is to work under the assumption "that a certain number of people are going to use the course, and see if the vendor is flexible about scaling the contract cost up and down, depending on how many people actually end up using the system," Jones said.

Jones speaks from experience. Two years ago, prior to its merger with J.P. Morgan & Co., Chase Manhattan Corp. contracted with San Francisco-based DigitalThink Inc. to develop a customized e-commerce course for employees in 50 countries. Jones said he doesn't blame DigitalThink for the structure of the multimillion-dollar licensing arrangement, because per-seat pricing was the norm then. But the investment "didn't achieve the ROI that we expected," he said.

Though there are obvious cost savings that e-learning investments can produce, such as reduced travel expenses, the ROI of such projects can be hard to determine, said Morris.

"For us, the focus has been on cost avoidance," she said. "But we need to look at all aspects of the employee's relationship to learning and the impact on the bottom line." That includes weighing job satisfaction rates and other measurements against the e-learning courses that workers are taking, Morris said.

PAYBACK TIME

For more stories about IT investment issues, head to our ROI Knowledge Center

QuickLink k2340
www.computerworld.com

Sun Is Ready to Step Up to Web Services Challenge, Exec Says

Sun Microsystems Inc. in recent months has been making up for lost time by throwing itself into the heart of the Web services action that has largely been led by its rivals. **Mark Bauhaus,** *a 16-year Sun veteran who became vice president of Java Web services in July, spoke with* Computerworld's *Carol Sliwa this month about the company's plans in the areas of Java and Web services.*

Why did Sun join the Web Services Interoperability Organization (WS-I), which was founded by companies like IBM and Microsoft, after declining to join for so long? First, the opportunity presented itself, [with] WS-I opening up two board seats that are elected [by] the community. We're running for one of the board seats. Also, I think the industry and Sun itself expect us to be right at the center of defining the future of technology. We always have been.

Do you feel like you're playing catch-up to vendors such as IBM and Microsoft in Web services? As I come into this world, the cup is half full. Sun's done some things really well, and there are some areas where we absolutely see opportunity to build better products, to go lead in standards areas where maybe we haven't.

Do you foresee Sun being able to work in a cooperative spirit with Microsoft on Web services standards, given all the bad blood that has passed between the two companies? I don't have time for bad blood. It's not interesting, and I think what the industry wants is some leadership around bringing these standards together and making sure that they're open. So that's where Sun's going to spend its energy. And we'll work with whomever.

Will the Java Community Process (JCP), which Sun formed to evolve Java technology, have much interplay with the organizations that are working on Web services standards? It's already happening. A lot of the Web services standards have beeo incorporated into the Java platform, and that's really important because they both need each other.

You talk about the need for open standards for Web services, yet Sun still exercises a level of control over the JCP. How do you reconcile that? The Java Community Process has been oo an inexorable path to openness with Version 2.5.

From an industry perspective, it's important that the Java brand mean something. It's important that compatibility is maintained, because that's really what Java is all about. So there has to be some level of control around that. But the process itself is remarkably open.

Any chance that Java will be made open source? Well, JCP 2.5 takes us a huge step toward open source, and we'll see what happens in the future.

It's in the realm of possibility? I think that's really up to the JCP process. That's why it's a collaborative process. It's not controlled by Sun. ●

MORE ONLINE
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QuickLink 35271
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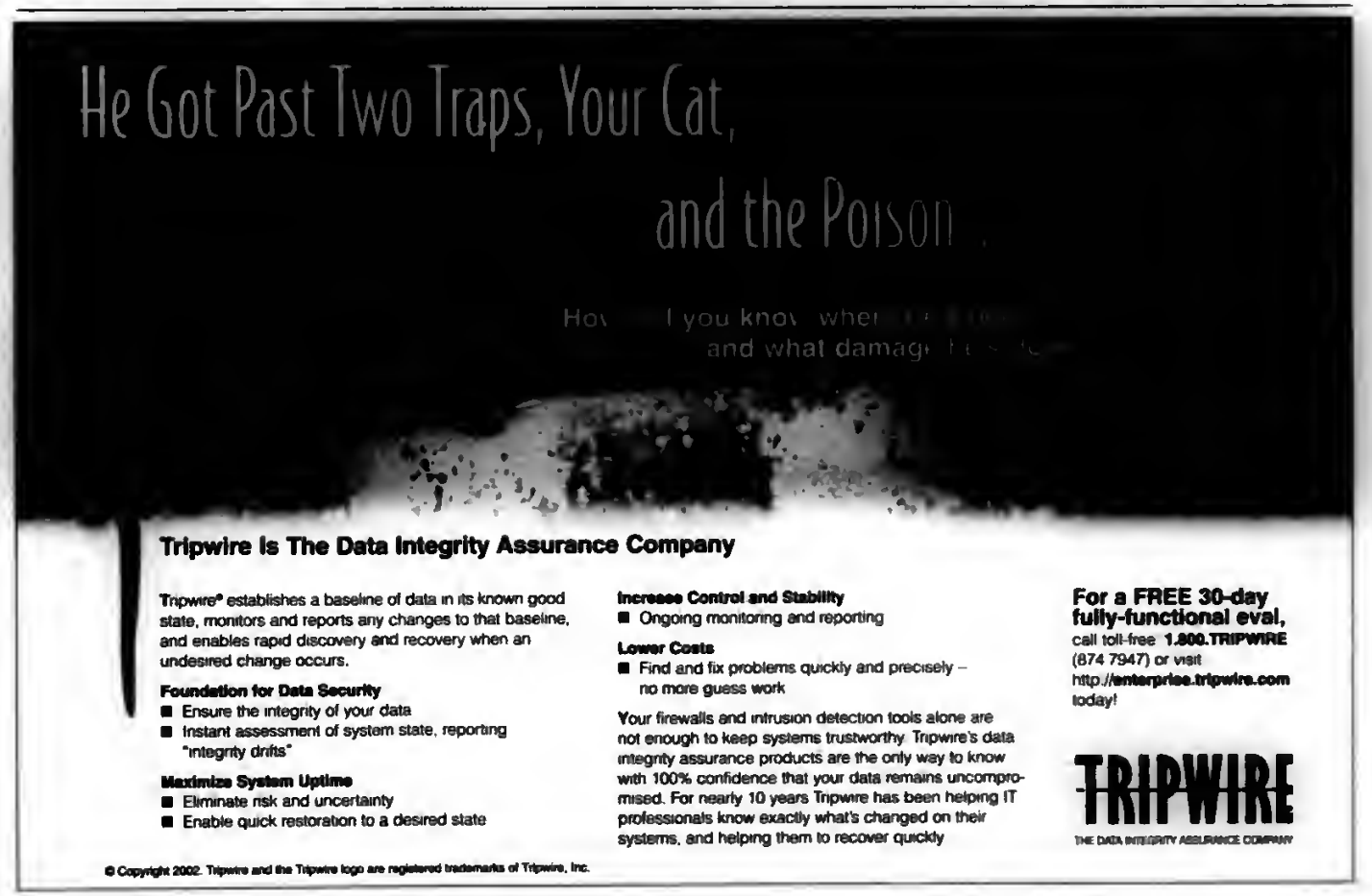
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and the Poison.
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WHY NOT STOP POURING MONEY DOWN THE DESKTOP DRAIN?

The last thing in the world you want to spend money on right now is new desktop "productivity" software. On your list of things to upgrade, it ranks right above the ficus in the corner that's losing all of its leaves.

There is an alternative, however, to Licensing 6.0. It's Sun's StarOffice™ 6.0 software. For those people in your company who create typical word processing, spreadsheet and presentation documents, it's just the software they need.

Users will find the suite familiar, intuitive and easy to master within days. IT staff will find that the backward and forward file compatibility between StarOffice and Microsoft Office suites means you can deploy both products within the enterprise, according to how extensively people use their desktop software.

License the full-featured Microsoft suite for power users who create complex spreadsheets or presentations with elaborate, animated builds. And then save money by deploying StarOffice software throughout the rest of your organization, possibly on a single server, for as little as $25 per user.

In today's economy, any company who demands that you pay money for technology that's not urgently needed is a company who's not looking out for your interests.

That's why, in a recent survey of 1,500 technology managers, 36% said they are looking for an alternative.* The alternative exists. Sun's StarOffice.

See StarOffice for yourself at SUN.COM/STAROFFICE

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Sun microsystems

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Intel Makes Big Development Push on Wireless

BY BOB BREWIN
HILLSBORO, ORE

Intel Corp. is working to develop what it calls a "wireless ecosystem" that's aimed at eventually letting end users with any kind of computing devices tap into any kind of mobile network worldwide.

In briefings at Intel's wireless development facilities here this month, executives detailed a series of research projects that they said are essential to the company's efforts to sell future generations of chips for wireless systems.

Roger Chandler, a market development manager at Intel, said the ongoing work includes development of a "mobile execution environment" that's being designed to serve as the base level of a wireless software stack. Software developers and wireless technology vendors could layer programming languages, such as the mobile version of Java, as well as operating systems and applications on top of the Intel technology, he said.

Chandler said Intel is also developing IP-based intelligent roaming capabilities to make it possible for mobile users to switch from wireless LANs to cellular WANs without having any knowledge of the underlying network protocols.

Other wireless initiatives under way at Intel include efforts to automate authentication procedures as mobile users are handed off from one network to another and to develop "location-aware" software that works with the company's mobile computing processors, Chandler said.

The ultimate goal of Intel's wireless strategy is so-called silicon radio, which would incorporate multiple cellular and WLAN standards on chips. But Kari Skoog, an Intel spokeswoman, said the company doesn't expect to complete that technology for "seven-plus years." The other pieces of Intel's wireless puzzle are due to begin appearing within the next 18 to 24 months, she said.

Daunting but Doable

Gary Robertson, executive director of global infrastructure at Delphi Corp., a Troy, Mich.-based maker of automotive electronics systems, said Intel's wireless development plans sound daunting.

"But if anybody can do it and pull it off, it's Intel," Robertson said, adding that he could put to good use a system that lets him easily switch from a WLAN service to a cellular network while traveling on business.

Intel's development efforts "have made it the most important company in wireless and one of the most aggressive," said Craig Mathias, an analyst at Farpoint Group in Ashland, Mass. Because of the growing use of WLANs, wireless technology is a logical path for the company to follow in search of new revenue, Mathias said.

John Rasmussen, vice president of business and corporate development at Milpitas, Calif.-based Gric Communications Inc., which supplies wired and wireless Internet services to mobile users, said that Intel is taking an umbrella approach to wireless technology development. Many other vendors "are only looking at bits and pieces," Rasmussen added.

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Sun microsystems

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Intel Adds to Wi-Fi Venture Investments

Intel last week announced two new investments in vendors that are developing technology for Wi-Fi WLANs, including initial funding for a company that markets wireless voice-over-IP (VOIP) software.

The investments are part of Intel's efforts "to help accelerate the deployment of high-speed wireless networks worldwide," said John Hull, director of the Intel Communications Fund, which plans to invest $150 million in Wi-Fi companies.

Hull added that the financing moves are also aimed at boosting technologies that will work with devices based on Intel's upcoming Banias mobile processor, which is due to be released by next June.

But Intel last week said that it has run into a glitch in developing a mini-PCI card that's being designed to provide dual-band Wi-Fi capabilities for Banias-based systems. The initial version of the card will work only on 802.11b WLANs, not the higher-frequency 802.11a technology.

Shannon Johnson, an Intel spokeswoman, said the company is working "to ensure performance and reliability" on 802.11a networks. But Intel still plans to meet its goal of delivering dual-band Wi-Fi support by mid-2003, she said.

Intel said it's making an initial investment in Bellevue, Wash.-based Telesym Inc., which sells VOIP software that lets mobile computing devices connected to Wi-Fi networks function as wireless speakerphones.

Intel is also providing a second round of funding to STSN Inc., a Salt Lake City-based vendor that offers broadband wireless access to users in the hospitality industry. The financial details of the two investment deals weren't disclosed.

– Bob Brewin

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MARYFRAN JOHNSON

The 12 Beeps of Xmas

CHRISTMAS CAME EARLY to my house this year, as I discovered last week when I caught my homeland chief technology officer installing a TiVo system in our family entertainment center. Another partridge had landed in our techie pear tree.

"What are you doing?" I asked, as what to my wondering eyes should appear but yet another remote controller joining the four calling birds for DVD, VCR, TV and cable. "We've got TiVo!" my husband exclaimed, as he whisked the new AT&T controller out of sight. "It's like having an operating system in our TV, recording whatever we want."

"What's all this mess?" I asked, eyeing the sprawl of cables and wires all over the carpet.

"I'm rewiring a few things."

"I see. Did you read the manual?"

He scoffed. "Real men don't read manuals."

In the ensuing explanation about TiVo, I learned a lot about digital video recording technologies, cable modems, serial connections and the wonders of "controlling your TV experience." I heard about the 40GB disk drive in the TiVo box that will record 12 hours of drummers drumming or pipers piping or even lords a-leaping.

At this point, I'd give five golden rings just to know how to turn on the TV again.

But when I look around my house, I realize I should have seen this coming, this rising tide of technology making once simple activities infinitely more complex.

The first real clue was the pervasive beeping, and it wasn't coming from three French hens, either. It was the microwave and coffeepot announcing their finished tasks. And smoke detectors, cell phones and PDAs warning about waning battery life.

The second clue was the steadily increasing hum of computer systems — at least nine of those ladies dancing their way onto the home network, which has now split into two turtledove Internet connections (one cable modem, one dial-up).

The third clue was heralded by the parade of wireless devices, including a wireless doorbell, wireless garage door openers, two wireless access points in the bouse and, finally, the homeland CTO's particular pride and joy: a wireless transmitter in the mailbox. That one sends a signal to the house where yet another device starts beeping whenever the mailbox is opened.

"Seriously now," I said. "Why do we need a mailbox alert?"

"Mail tampering," he replied, sternly reminding me of 10 years ago when some kid made off with his *Scientific American*. "It's part of our perimeter defense system."

Whicb reminds me, did I mention the driveway motion detector? Actually, it's more of a large-metal-objects detector, which sets off (you guessed it) a series of beeps when cars enter our driveway — or a big truck happens to drive by. Now, six geese a-laying could sashay right by the thing, as could seven swans a-swimming. But the front-walk motion detectors would catch those eight maids a-milking in a heartbeat. I'm not sure what will happen if anything with hooves lands on the roof.

I'm still a bit mystified about the purpose of the four radio-synchronized atomic clocks, which keep maniacally accurate time by picking up a 60-KHz signal broadcast from Boulder, Colo. Of course, they have to be placed in the west-facing windows of the house, so I've been meaning to ask if we've got anything coordinating with the Star of Bethlehem.

I could go on, but there's something beeping and I have to go investigate . . .

Wishing you all happy holidays, peace on earth and goodwill toward gadgets!

PIMM FOX

Linux: Not Ready for the Data Center

THE VIRTUES of Linux are well known: It's free, open source and pretty cool, especially if it's running in a bunch of high-volume locations, like a chain of retail stores. Issues of support and reliability have been addressed to some degree as well. For example, over the summer, Oracle ported its database engine and apps to Red Hat's Linux distribution and announced that it would offer enterprise-level operating system support, thus joining Veritas, IBM, Hewlett-Packard and Dell on the Linux bandwagon. Even Linux's performance is starting to look good.

But despite these advances, it's still unclear whether going with Linux (your CFO's interest in anything free notwithstanding) can save you money inside the data center.

Brian Richardson, program director at Meta Group, says that while Linux has moved from "bleeding-edge" to "early-adopter" status, multiprocessor CPU deployments are rare.

For a serious Linux analysis, he recommends doing two things. First, make a sensible comparison: "Wintel vs. Lintel isn't as true a comparison as RISC vs. Lintel," he says. After all, Microsoft's Advanced Server Edition has already been proven to eight processors. And don't compare an overconfigured Unix setup with a smaller Intel platform. Apples-to-apples comparisons are necessary because the costs for storage, servers, middleware, applications and support are about the same for Linux and Windows.

Second, Richardson calls for CIOs to check the total cost of ownership for Linux vs. Windows, because the real comparison should be at the database pricing level. For example, running Oracle vs. SQL Server.

At the application level, there's nary a difference between Unix and Linux, and the same holds true for the database level. No, it's at the RISC and In-

tel hardware level that real cost comparisons make sense.

So look at your IT infrastructure and your cost structure closely before going with Linux.

Consolidating a lot of little boxes into one large server sounds enticing, but Richardson says that generally, he has yet to see a large ROI from such efforts. Moving from 100 boxes to 10 won't change end-user support charges, nor will it modify database administrator and application costs.

And finally, Richardson argues, the shadow support costs (unlogged time doing work-arounds and enhancements, for example) might be higher for Linux than for Windows.

Talking up the merits of Linux is an attention-getter, especially in a tight budget environment. But at the current stage of Linux development, it's incumbent upon IT to investigate how many months it will take to build the distribution tools, utilities and enhancements that will make Linux ready for the data center.

DAN GILLMOR

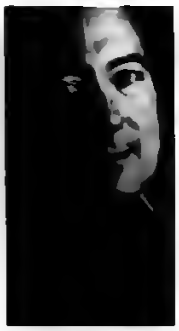
Sun's Cagey Linux Strategy

PICK ONE: Sun Microsystems' new foray into desktop computing is 1) an "if you can't beat 'em, join 'em" strategy; 2) the flailing of a company faced with a lousy IT economy, drooping margins and brutal competition; or 3) an inspired move.

We won't know the answer for a while. But after talking with Sun CEO Scott McNealy and several of his lieutenants recently, I'm not willing to write off the company's desktop tactic as entirely ridiculous. And maybe IT folks should consider giving it some thought, too.

Sun isn't selling stand-alone PCs. The machines come as part of a package deal. That is, Sun will sell Intel-compatible PCs — running Linux, the GNOME desktop, StarOffice, Ximian's Evolution (an Outlook clone that can plug into Exchange servers), the Mozilla browser and other software — in large deals that also include servers.

McNealy says the early target for these systems will be organizations needing PCs for what he calls "dedicated-use environments." Examples might include universities, call centers and sales offices — organizations that don't need Windows and Microsoft Office. Given the remarkable progress of Linux on the desktop lately, don't discount the possibility that Sun will achieve the magical standard called "good enough," a level of quality that was one of the keys to Microsoft's early success.



Macros in Microsoft documents, especially Excel spreadsheets, are the "biggest barrier to entry," McNealy admits. That's what makes another Sun initiative so interesting. The company is funding a StarOffice SDK, conversion tools to turn Visual Basic macros into Java applets and an XML file-format output that would finally let various office suites open, manipulate and store data seamlessly.

I expect Microsoft to join the interoperability push approximately one month after hell freezes over. Even though the software giant has made moves toward XML file formats in upcoming versions of Office, I'll be amazed if it doesn't introduce new kinds of proprietary tie-ups to keep thwarting true interoperability, which would be dangerous for the Office suite monopoly.

What Sun is definitely not doing on the desktop is going after consumers, at least not in the near term. Yet one wonders if a well-supported white-box PC running Linux, GNOME, et al., might not have some appeal to a wider audience.

One also wonders how Sun expects to compete with the likes of Dell, Hewlett-Packard and the neighborhood PC clone assembler. For its hardware, Sun will be buying from essentially the same suppliers as Dell and others. But volume has to be an advantage for the Wintel companies, unless Sun wins a shockingly large amount of orders.

Software costs will be another story. Sun doesn't have to buy software from Microsoft. It can preload everything it needs for a marginal cost of nearly zero. As Microsoft resellers, Dell and HP can't match that.

Still another question has little to do with client systems per se. It's whether Sun ultimately can handle the increasing squeeze it's getting from IBM at the high end and Wintel/Lintel at the low end.

Sun's margins have always been in the big iron. It'll have to sell a whole lot of Linux boxes — with a business model and support issues that are fundamentally alien to the company's culture — to impress Wall Street. First, though, it'll have to impress IT.

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READERS' LETTERS

Ignoring the Past

YOUR FRONT PAGE story about the failed $100 million project at 21st Century Insurance makes me embarrassed for all of IT [QuickLink 34896]. This is the type of massive screw-up that our profession has been delivering with mind-numbing regularity for the last 30 years. I believe that IT is not yet a profession because we don't learn from our mistakes. We haven't codified the knowledge gained from the last 30 years of experience and taught it to the latest generation. Our attitude is that anything in IT that happened more than 10 years ago is ancient history and nothing that today's practitioner needs to know about. This article chronicles a trail of classic mistakes that we have all seen time and again. How can this still be happening?

Michael Hugos
CIO, Network Services Co., Chicago

Slippery Definition

IN "CYBERWHOCARES? IT Should" [QuickLink 34721], Maryfran Johnson quotes "renowned security expert Bruce Schneier" on how to define *cyberterrorism:* "using a computer to make planes fall out of the sky or buildings collapse." The definition of *cyberterrorism* is slippery. Ramsey Yousef, who masterminded the 1994 World Trade Center bombing, encrypted his plans for blowing up 11 U.S. airliners. Some label this "cyberterrorism" because he employed computer technology. As for critics of *Computerworld*'s publishing the comments of Sheikh Omar Bakri Muhammad, well, your most important duty is determining what is news. Please continue to err on the side of enlightening us, or the benefit of free speech is wasted anyway.

Brandon Muster
Senior technology writer, Giraffe Systems, New York

ROI Isn't Everything

IN HIS DEC. 2 COLUMN, John Berry shows that too much emphasis is being placed, faddishly, on ROI [QuickLink 34697]. Customers should take a hard look at whether the products and services they're thinking about buying have been truthfully described and really fit their operational needs. ROI rarely answers these questions. Having been a business development and implementation consultant for 20 years, my experience says that about 30% of product/service failures come from a vendor overselling a product. Unfortunately, customer due diligence usually consists of a spreadsheet with little real connection to the actual working of the product or service. Another 30% of the failures come from customers misunderstanding their own needs or sabotaging their own project implementations for various reasons.

To reduce implementation failures and save customers money, salespeople and consultants can take a little more time and do a better job of understanding how a product or service fits the needs of the customer, and customers can give them a little more time and access to their organization. If consultants or salespeople are unwilling to do this work, ditch 'em.

Bob London
President, R.M. London & Associates, Stoughton, Wis.

A Place for Geeks

AS AN IT PROFESSIONAL achieving an MBA in the spring, I found that the article "Who Moved My IT Job?" [QuickLink 34428] catered to the management theme du jour and got things about half right. The part about IT executives becoming "collaborative associates" is right on the mark. Executives are generalists, not specialists. But the part about IT specialists needing to become generalists is hogwash. There are places for business-savvy IT types, but there are also roles for the geek who would be happy in a room full of his favorite electronic toys 22 hours a day with a cot and someone to refresh his supply of caffeine and pizza and remove the empties.

IT professionals understand things like normalizing databases, optimizing networks and selecting equipment like switches and routers in a way that many business people do not. The mistaken belief that business people can do the job of an IT professional is just as deadly as the thought that a clerk with a little accounting background can handle the job of a CPA. He can support the CPA, but not replace him.

R. Otto
Milwaukee

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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MARYFRAN JOHNSON

The 12 Beeps of Xmas

CHRISTMAS CAME EARLY to my house this year, as I discovered last week when I caught my homeland chief technology officer installing a TiVo system in our family entertainment center. Another partridge had landed in our techie pear tree.

"What are you doing?" I asked, as what to my wondering eyes should appear but yet another remote controller joining the four calling birds fur DVD, VCR, TV and cable. "We've got TiVo!" my husband exclaimed, as he whisked the new AT&T controller out of sight. "It's like having an operating system in our TV, recording whatever we want."

"What's all this mess?" I asked, eyeing the sprawl of cables and wires all over the carpet.

"I'm rewiring a few things."

"I see. Did you read the manual?"

He scoffed. "Real men don't read manuals."

In the ensuing explanation about TiVo, I learned a lot about digital video recording technologies, cable modems, serial connections and the wonders of "cootrolling your TV experience." I heard about the 40GB disk drive in the TiVo box that will record 12 hours of drummers drumming or pipers piping or even lords a-leaping.

At this point, I'd give five golden rings just to know bow to turn on the TV again.

But when I look around my house, I realize I should have seen this coming, this rising tide of technology making once simple activities infinitely more complex.

The first real clue was the pervasive beeping, and it wasn't coming from three Frencb hens, either. It was the microwave and coffeepot announcing their finished tasks. And smoke detectors, cell phones and PDAs warning about waning battery life.

The second clue was the steadily increasing hum of computer systems — at least nine of those ladies dancing their way onto the home network, which has now split into two turtledove Internet connections (one cable modem, one dial-up).

The third clue was heralded by the parade of wireless devices, including a wireless doorbell, wireless garage door openers, two wireless access points in the house and, finally, the homeland CTO's particular pride and joy: a wireless transmitter in the mailbox. That one sends a signal to the house wbere yet another device starts beeping whenever the mailbox is opened.

"Seriously now," I said. "Why do we need a mailbox alert?"

"Mail tampering," he replied, sternly reminding me of 10 years ago when some kid made off with his *Scientific American*. "It's part of our perimeter defense system."

Which reminds me, did I mention the driveway motion detector? Actually, it's more of a large-metal-objects detector, whicb sets off (you guessed it) a series of beeps when cars enter our driveway — or a big truck happens to drive by. Now, six geese a-laying could sashay right by the thing, as could seven swans a-swimming. But the front-walk motion detectors would catcb those eight maids a-milking in a heartheat. I'm not sure what will happen if anything witb hooves lands oo the roof.

I'm still a bit mystified about tbe purpose of the four radio-synchronized atomic clocks, whicb keep maniacally accurate time by picking up a 60-KHz signal broadcast from Boulder, Colo. Of course, they bave to he placed in tbe west-facing windows of the house, so I've been meaning to ask if we've got anything coordinating with the Star of Bethlehem.

I could go on, but there's something beeping and I have to go investigate . . .

Wishing you all happy holidays, peace on earth and goodwill toward gadgets!

PIMM FOX

Linux: Not Ready for the Data Center

THE VIRTUES of Linux are well known: It's free, open source and pretty cool, especially if it's running in a bunch of high-volume locations, like a chain of retail stores. Issues of support and reliability have been addressed to some degree as well. For example, over the summer, Oracle ported its database engine and apps to Red Hat's Linux distribution and announced that it would offer enterprise-level operating system support, tbus joining Veritas, IBM, Hewlett-Packard and Dell oo the Linux bandwagon. Even Linux's performance is starting to look good.

But despite these advances, it's still unclear whether going with Linux (your CFO's interest in anything free notwithstanding) can save you money inside the data center.

Brian Richardson, program director at Meta Group, says that while Linux has moved from "bleeding-edge" to "early-adopter" status, multiprocessor CPU deployments are rare.

For a serious Linux analysis, he recommends doing two things. First, make a sensible comparison: "Wintel vs. Lintel isn't as true a comparison as RISC vs. Lintel," he says. After all, Microsoft's Advanced Server Edition has already been proven to eight processors. And don't compare an overconfigured Unix setup with a smaller Intel platform. Apples-to-apples comparisons are necessary because the costs for storage, servers, middleware, applications and support are about the same for Linux and Windows.

Secood, Richardsoo calls for CIOs to check the total cost of ownership for Linux vs. Windows, because the real comparison should be at the database pricing level. For example, running Oracle vs. SQL Server.

At the application level, there's nary a difference between Unix and Linux, and the same holds true for the database level. No, it's at the RISC and In-

tel hardware level that real cost comparisons make sense.

So look at your IT infrastructure and your cost structure closely before going with Linux.

Consolidating a lot of little boxes into one large server sounds enticing, but Richardsoo says that generally, be has yet to see a large ROI from such efforts. Moving from 100 boxes to 10 woo't change end-user support charges, nor will it modify database administrator and application costs.

And finally, Richardson argues, the shadow support costs (unlogged time doing work-arounds and enhancements, for example) might be higher for Linux than for Windows.

Talking up tbe merits of Linux is an attention-getter, especially in a tight budget environment. But at the current stage of Linux development, it's incumbent upon IT to investigate how many months it will take to build the distribution tools, utilities and enhancements that will make Linux ready for the data center.

DAN GILLMOR

Sun's Cagey Linux Strategy

PICK ONE: Sun Microsystems' new foray into desktop computing is 1) an "if you can't beat 'em, join 'em" strategy; 2) the flailing of a company faced with a lousy IT economy, drooping margins and brutal competition; or 3) an inspired move.

We won't know the answer for a while. But after talking with Sun CEO Scott McNealy and several of his lieutenants recently, I'm not willing to write off the company'a desktop tactic as entirely ridiculous. And maybe IT folks should consider giving it some thought, too.

Sun isn't selling stand-alone PCs. The machines come as part of a package deal. That is, Suo will sell Intel-compatible PCs — running Linux, the GNOME desktop, StarOffice, Ximian's Evolution (an Outlook clone that can plug into Exchange servers), the Mozilla browser and other software — in large deals that also include servers.

McNealy says the early target for these systems will be organizations needing PCs for what he calls "dedicated-use eovironments." Examples might include universities, call centers and sales offices — organizations that don't need Windows and Microsoft Office. Giveo the remarkable progress of Linux on the desktop lately, don't discount the possibility that Sun will achieve the magical standard called "good enough," a level of quality that was one of tbe keys to Microsoft's early success.

Macros in Microsoft documents, especially Excel spreadsheets, are the "biggest barrier to entry," McNealy admits. That's what makes another Sun initiative so interesting. The company is funding a StarOffice SDK, conversion tools to turn Visual Basic macros into Java applets and an XML file-format output that would finally let various office suites open, manipulate and store data seamlessly.

I expect Microsoft to join the interoperability push approximately one montb after hell freezes over. Even though the software giant has made moves toward XML file formats in upcoming versions of Office, I'll be amazed if it doesn't introduce new kinds of proprietary tie-ups to keep thwarting true interoperability, which would be dangerous for the Office suite monopoly.

What Suo is definitely not doing on the desktop is going after consumers, at least not in the near term. Yet one wonders if a well-supported white-box PC runniog Linux, GNOME, et al., might oot have some appeal to a wider audience.

One also wonders how Sun expects to compete with the likes of Dell, Hewlett-Packard and the oeighborhood PC clone assembler. For its hardware, Suo will be buying from esseotially the same suppliers as Dell and others. But volume has to be an advantage for the Wintel companies, unless Sun wins a shockingly large amount of orders.

Software costs will be another story. Sun doesn't have to buy software from Microsoft. It can preload everything it needs for a marginal cost of nearly zero. As Microsoft resellers, Dell and HP can't match that.

Still another question has little to do with client systems per se. It's whether Sun ultimately can handle the increasing squeeze it's getting from IBM at tbe high end and Wintel/Lintel at the low end.

Sun's margins have always been in the big iron. It'll have to sell a whole lot of Linux boxes — with a business model and support issues that are fundamentally alien to the company's culture — to impress Wall Street. First, though, it'll have to impress IT.

WANT OUR OPINION?

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www.computerworld.com/columns

READERS' LETTERS

Ignoring the Past

YOUR FRONT PAGE story about the failed $100 million project at 21st Century Insurance makes me embarrassed for all of IT [QuickLink 34896]. This is the type of massive screw-up that our profession has been delivering with mind-numbing regularity for the last 30 years. I believe that IT is not yet a profession because we don't learn from our mistakes. We haven't codified the knowledge gained from the last 30 years of experience and taught it to the latest generation. Our attitude is that anything in IT that happened more than 10 years ago is ancient history and nothing that today's practitioner needs to know about. This article chronicles a trail of classic mistakes that we have all seen time and again. How can this still be happening?

Michael Hugos
CIO, Network Services Co., Chicago

Slippery Definition

IN "CYBERWHOCARES? IT Should!" [QuickLink 34721], Marytran Johnson quotes "renowned security expert Bruce Schneier" on how to define *cyberterrorism:* "using a computer to make planes fall out of the sky or buildings collapse." The definition of *cyberterrorism* is slippery. Ramsey Yousef, who masterminded the 1994 World Trade Center bombing, encrypted his plans for blowing up 11 U.S. airliners. Some label this "cyberterrorism" because he employed computer technology. As for critics of *Computerworld*'s publishing the comments of Sheikh Omar Bakri Muhammad, well, your most important duty is determining what is news. Please continue to err on the side of enlightening us, or the benefit of free speech is wasted anyway.

Brandon Musler
Senior technology writer, Giraffe Systems, New York

ROI Isn't Everything

IN HIS DEC. 2 COLUMN, John Berry shows that too much emphasis is being placed, faddishly, on ROI [QuickLink 34697]. Customers should take a hard look at whether the products and services they're thinking about buying have been truthfully described and really fit their operational needs. ROI rarely answers these questions. Having been a business development and implementation consultant for 20 years, my experience says that about 30% of product/service failures come from a vendor overselling a product. Unfortunately, customer due diligence usually consists of a spreadsheet with little real connection to the actual working of the product or service. Another 30% of the failures come from customers misunderstanding their own needs or sabotaging their own project implementations for various reasons.

To reduce implementation failures and save customers money, salespeople and consultants can take a little more time and do a better job of understanding how a product or service fits the needs of the customer, and customers can give them a little more time and access to their organization. If consultants or salespeople are unwilling to do this work, ditch 'em.

Bob London
President, R.M. London & Associates, Stoughton, Wis.

A Place for Geeks

AS AN IT PROFESSIONAL achieving an MBA in the spring, I found that the article "Who Moved My IT Job?" [QuickLink 34428] catered to the management theme du jour and got things about half right. The part about IT executives becoming "collaborative associates" is right on the mark. Executives are generalists, not specialists. But the part about IT specialists needing to become generalists is hogwash. There are places for business-savvy IT types, but there are also roles for the geek who would be happy in a room full of his favorite electronic toys 22 hours a day with a cot and someone to refresh his supply of caffeine and pizza and remove the empties.

IT professionals understand things like normalizing databases, optimizing networks and selecting equipment like switches and routers in a way that many business people do not. The mistaken belief that business people can do the job of an IT professional is just as deadly as the thought that a clerk with a little accounting background can handle the job of a CPA. He can support the CPA, but not replace him.

R. Otto
Milwaukee

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com Include an address and phone number for immediate verification.

More letters on these and other topics are on our Web site
computerworld.com/letters

IF YOU PURCHASED A SUBSCRIPTION TO THIS OR ANOTHER MAGAZINE, THE FOLLOWING PROPOSED CLASS ACTION SETTLEMENT MAY AFFECT YOUR RIGHTS

This notice describes a proposed nationwide settlement of class action lawsuits relating to magazine subscriptions that has been reached in In Re Magazine Antitrust Litigation, 00 Civ. 4889 (S.D.N.Y.) (the "Action"), and preliminarily approved by the U.S. District Court for the Southern District of New York (the "Court").

PLEASE NOTE THAT THE PROPOSED SETTLEMENT DOES NOT PROVIDE FOR THE PAYMENT OF MONEY OR OTHER COMPENSATION TO THE CLASS MEMBERS BUT INSTEAD SOLELY ADDRESSES CERTAIN INDUSTRY RULES AND PRACTICES THAT WERE DIRECTLY CHALLENGED IN THE ACTION AS BEING UNLAWFUL (SEE "THE CLAIMS IN THE LAWSUIT" SECTION BELOW).

This announcement is intended to give class members notice under Rule 23 of the Federal Rules of Civil Procedure and the Order of the Court dated September 20, 2002, as modified on September 30, 2002, that a hearing will be held before the Hon. Richard Conway Casey on May 27, 2003 at 11:00 a.m. to determine whether: (a) to certify the proposed settlement class under Rule 23; (b) the proposed settlement of the Action is fair, reasonable and adequate; (c) a final judgment should be entered dismissing the Action with prejudice to the class members; and (d) to approve class counsels' application for attorneys' fees and expenses. The rest of this notice summarizes the terms of the proposed settlement. You can obtain a copy of the settlement agreement, the Consolidated Amended Class Action Complaint (the "Complaint"), and a list of the magazine subscriptions at issue in the Action, at www.magazine.org or by writing to The Garden City Group, Inc., the Administrator of the Notice Program, at Magazine Antitrust Litigation, P.O. Box 9000 # 6041, Merrick, NY 11566-9000 (the "Administrator"). **ANY QUESTIONS AND COMMUNICATIONS REGARDING THIS NOTICE OR THE SETTLEMENT SHOULD BE DIRECTED TO THE ADMINISTRATOR AT THE ADDRESS LISTED ABOVE OR BY CALLING 1-888-210-0118. PLEASE DO NOT CONTACT THE ADMINISTRATOR WITH QUESTIONS REGARDING YOUR CURRENT SUBSCRIPTIONS UNLESS THOSE QUESTIONS RELATE TO THE CLASS ACTION SETTLEMENT.**

DO NOT CONTACT THE COURT, COUNSEL TO THE PARTIES, COMPUTERWORLD OR ANY PUBLISHER REGARDING THIS NOTICE. THE ADMINISTRATOR, WHERE APPROPRIATE, WILL REFER ANY QUESTIONS TO THE APPROPRIATE PERSON.

The Claims in the Lawsuit

The Complaint was filed in this Action in or about October 2000, against the Magazine Publishers of America ("MPA"), a consumer magazine trade association, and fourteen magazine publishing companies (the "Publisher Defendants"). The Complaint alleged an agreement among the Publisher Defendants and the MPA to set the minimum price of or maximum discount on magazine subscriptions through the enactment of MPA Guideline 4(a) and/or the collective action among publishers to adhere to the ABC's 50% Rule (as referred to in ¶45 of the Complaint) or the similar Rule of the BPA International pertaining to its definition of "paid circulation." The Complaint asked the Court to eliminate or modify Guideline 4(a) and to award damages that allegedly were suffered by consumers who purchased subscriptions to the Publisher Defendants' magazines.

The defendants have denied the material allegations of the Complaint. The parties have now agreed to settle the Action in its entirety. On September 20, 2002, the Court preliminarily approved the settlement.

Terms of the Proposed Settlement

In the proposed settlement, the defendants have agreed to do two things: (i) the MPA shall delete in its entirety MPA Guideline 4(a); and (ii) the defendants shall defray the costs incurred in connection with the Action, including the costs of the Notice program involving notifying class members of the terms and conditions of the proposed settlement and the Plaintiffs' actual attorneys' fees and expenses awarded by the Court up to $1.1 million.

In exchange, the Plaintiffs have agreed that, if the settlement is approved, the Court will enter a judgment dismissing the Action with prejudice, and the named Plaintiffs and all class members who have not duly opted-out of the class will be deemed to be subject to the release in this case, which provides as follows: "As of the date on which the Agreement is Finally Approved, the Publisher Defendants and the MPA . . . shall be completely released, acquitted, and forever discharged, from any and all claims, demands, actions, suits, causes of action, injuries or damages, whether class, individual or otherwise in nature, that Plaintiffs, the Class Members or each of them, in his or her capacity as a subscriber to a magazine, ever had or now has, in law or equity, under federal or state law, relating to an agreement to set the minimum price of or maximum discount on magazine subscriptions through the enactment of MPA Guideline 4(a) and/or the collective action among publishers to adhere to the ABC's 50% Rule (as referred to in ¶45 of the Amended Complaint) or the similar Rule of the BPA International pertaining to its definition of 'paid circulation.'"

The release also releases class action claims that were previously brought (but subsequently dismissed without prejudice) by a plaintiff in the State Court in San Diego, California, who asserted similar allegations against the defendants albeit based on violations of California state laws. The California action was styled *Coossan v. Hearst Corp., et. al.*, No. GIC 752985. A copy of the Coossan Complaint can be obtained at www.magazine.org.

Who are the Publisher Defendants?

The Publisher Defendants are: Condé Nast Publications, Inc.; Gruner + Jahr Printing and Publishing Company; Hachette Filipacchi Media U.S., Inc. (f/k/a Hachette Filipacchi Magazines, Inc.); The Hearst Corporation; International Data Group, Inc.; Meredith Corporation; Newsweek, Inc.; Primedia, Inc.; Reader's Digest Association, Inc.; Rodale Inc.; Time Inc.; Time4Media, Inc. (f/k/a Times Mirror Magazines, Inc.); TV Guide, Inc. and Ziff-Davis Publishing, Inc.

Who is in the Class?

Class Members are those persons who purchased a subscription to this publication or to other publications that were published by any of the Publisher Defendants during the period from and including July 1, 1996 up to and including April 15, 2002 (the "Class"). For purposes of determining inclusion in the Class, it does not matter whether you purchased your subscription from one of the Publisher Defendants, or through agents, subagents or other third party marketers. You are not, however, a member of the Class if you did not purchase a magazine subscription within the time period stated above, or if you purchased your magazines only at newsstands.

Your Right to Object to the Proposed Settlement

You have the right to appear, in person or by counsel, at the hearing on the proposed settlement in order to comment on, or object to, the terms of the proposed settlement, its adequacy or reasonableness and/or the award of attorneys' fees and expenses to class counsel. However, you will only be heard at that time if you first, by May 5, 2003, (a) file with the Court a notice of your intention to appear, which includes the basis for your objection, a statement identifying the magazines to which you subscribed, and the approximate time period of each such subscription; and (b) serve copies of the notice (and all other papers you intend to rely upon) by hand or first class mail on Plaintiffs' co-lead counsel, Bruce E. Gerstein, Esq., Garwin, Bronzaft, Gerstein, & Fisher, LLP, 1501 Broadway, Suite 1416, New York, NY 10036 and H. Laddie Montague, Jr., Esq., Berger & Montague, 1622 Locust Street, Philadelphia, PA 19103, and on Defendants' coordinating counsel, Lawrence I. Fox, Esq. at McDermott, Will & Emery, 50 Rockefeller Plaza, 11th Floor, New York, New York 10020.

Your Right to Opt-Out of the Settlement

ALTHOUGH YOU HAVE THE RIGHT TO APPEAR AT THE HEARING, YOU HAVE NO OBLIGATION TO DO SO. If you do not wish to participate in or be bound by the proposed settlement, you can exclude yourself (i.e., "opt-out"). To opt out, you MUST send a request for exclusion in an envelope POSTMARKED NO LATER THAN May 5, 2003 to the Administrator of the Notice Program Magazine Antitrust Litigation, P.O. Box 9000 # 6041, Merrick, NY 11566-9000. The request for exclusion must state your full name, the magazine(s) to which you subscribed and the approximate time period of each subscription, and the address to which your magazines were sent. IF YOU DO NOT EXCLUDE YOURSELF, you will be barred from prosecuting any legal action against the MPA or its members and the Publisher Defendants to the full extent of the release set forth in the "Terms of the Proposed Settlement" section above.

Examination of Papers and Inquiries

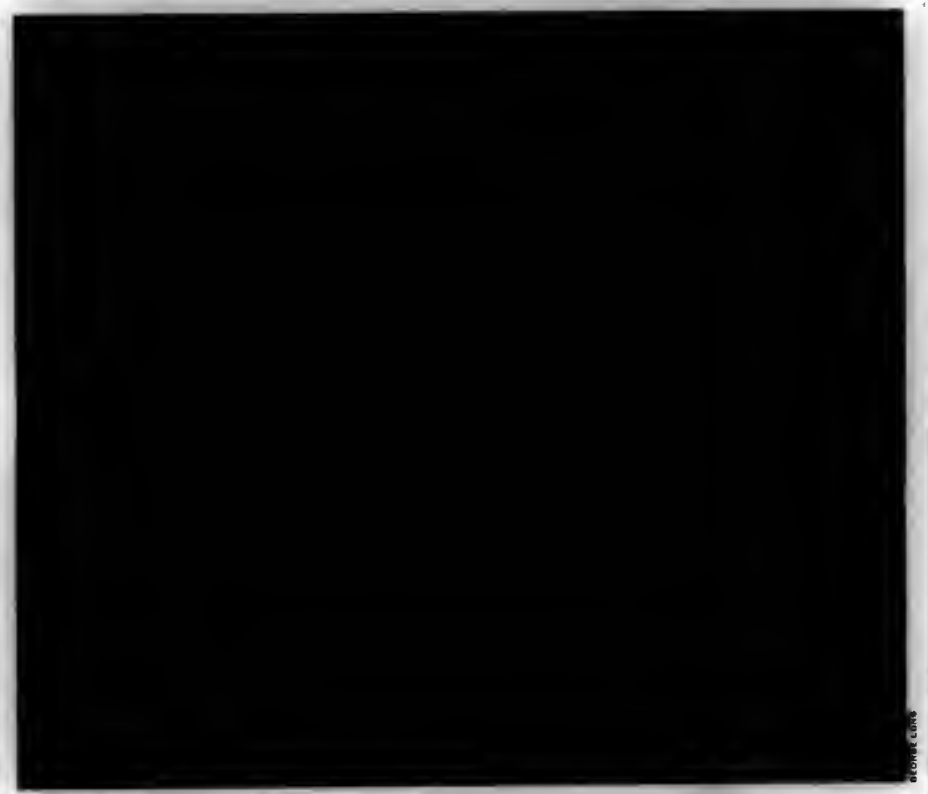
For a more detailed statement of the matters involved in the Action, including the Complaint, the settlement agreement, motion papers and certain orders of the Court, you may visit the office of the Clerk of the United States District Court, 500 Pearl Street, New York, New York, during business hours. Copies of the papers relating to the settlement are also available at www.magazine.org.

QUICKSTUDY/OPINION
Grid Computing
Grid computing creates virtual supercomputers from spare resources on PCs. Find out more in this week's QuickStudy and in Robert Mitchell's opinion piece. **Pages 30, 32**

CASE STUDY
Airline Portal Takes Flight
America West Airlines is using portal technology to provide workers a consolidated view of its operations. The project is helping the company rebound in a tough economy. **Page 25**

EMERGING TECHNOLOGIES
10 Gig Ethernet: Speed Demon
There's no question 10 Gigabit Ethernet can relieve congestion on high-traffic network backbones, but can it overcome price concerns? **Page 28**

Many companies find that the tough part of an ERP upgrade is the accompanying improvement on their supporting infrastructure. **BY GARY H. ANTHES**



Upgrade PAINS AND GAINS

PERHAPS THE ONLY PROJECT as difficult as installing a new enterprise resource planning (ERP) system is upgrading an old one.

Companies that have gone through major ERP system upgrades report that migrating to the newer application software tends to be relatively easy, especially when the vendor is actively involved. But upgrades to the underlying processing architecture, which often accompany such software migrations, are frequently troublesome. In particular, performance problems are usually unexpected and can be difficult to fix.

Nevertheless, these infrastructure upgrades were key for several companies because they let users reap the benefits of the newer Web-based systems.

ERP upgrade methods differed widely among the six companies with which *Computerworld* spoke (two of the companies' stories appear online at QuickLink 35159), from letting the vendor do most of the work to going it alone. And approaches varied greatly, from taking one deliberate step at a time to doing it all at once as quickly as possible. But one philosophy seems to permeate every successful upgrade: You can't do too much testing.

Performance Pitfalls

COMPANY: Pacific Steel and Recycling

When Pacific Steel and Recycling in Great Falls, Mont., upgraded to J.D. Edwards & Co.'s OneWorld ERP software from a combination of manual systems, custom applications and old J.D. Edwards software, network performance was nearly a "showstopper," says CIO David Richards.

"We had speed issues at the remote sites trying to go across 56K lines to fat clients," he says. A customer in a branch office might have to wait one and a half minutes just to get a price back from headquarters, Richards adds.

He was able to improve performance by shifting some software from client to server and other software from server to desktops, thereby reducing the amount of intercomputer communication. Richards also installed faster communication lines to some sites. Response time was eventually reduced to less than two seconds, he says.

Problems encountered with the software were made more difficult to solve by the fact that at the time of the upgrade in 1998, Pacific Steel was a beta tester for Denver-based J.D. Edwards, and both com-

panies were learning about the software, he says. "When people ask, 'What would you do differently?' one answer is, 'Don't be a beta site,' " Richards says.

Nevertheless, Richards says the upgrade has paid big dividends. More flexible, fine-grained pricing has increased margins enough to pay for the system in two-and-a-half years, and it has improved customer service and reduced inventories, he says.

Standards Are Key

COMPANY: WellPoint Health Networks

In 1998, WellPoint Health Networks Inc. in Thousand Oaks, Calif., went live with PeopleSoft Inc. payroll, benefits and human resources software for use by its human resources and payroll staff. In 2001, WellPoint upgraded those client/server applications to PeopleSoft 8.0, a Web-based implementation that opened the system to all employees.

WellPoint is saving $400,000 per year by allowing employees to perform their own benefits enrollment, according to Chuck Moore, vice president for human resource information systems and administration at the company.

But opening up a system to 17,000 new users presented some standardization issues, Moore acknowledges. "We had no clue as to who had PCs; whether they were Windows 3.0, Windows 95 or Windows 97; or what version of Microsoft Internet Explorer they had — or maybe it was Netscape," he says.

Those things matter, Moore says. For example, security for the system requires Secure Sockets Layer encryption that in turn requires Internet Explorer 5.5.

IT people were "the bad guys" in mandating the standards, Moore says. "We said, 'The only way to do an HR transaction is to use your PC, and by the way, you have got to have the standard software.' "

The effort to accommodate all those new users, who initially had unpredictable usage patterns, raised tough questions about processing capacity, especially during peak periods like open enrollment. The answers came through extensive testing, including stress testing, Moore says.

And, he adds, WellPoint's practice is to buy hardware that can be easily expanded. "We buy boxes at the low end, so if my needs are for two CPUs and 1GB of memory, I buy a machine that can hold four CPUs and 20GB."

Performance Tuning Matters

COMPANY: Beringer Blass Wine Estates

Companies often upgrade their processing infrastructures as part of ERP upgrades, but it's not for the faint of heart, says John Collins, IT vice president at Beringer Blass Wine Estates Holdings Inc. in Napa, Calif.

"People will tell you that it's complicated, not to underestimate it. Well, it's that squared," he says.

The winemaker upgraded its old J.D. Edwards human resources and financial packages from a monolithic environment — "green screens" attached to an IBM AS/400 — to J.D. Edwards' OneWorld, because the new software offered users a much better interface, better import/export capability and the ability to do some of their own report customization.

But the upgrade brought with it some thorny performance problems. The reason: The old J.D. Edwards code was written specifically for the AS/400, but the new platform-independent version uses the Open Database Connectivity (ODBC) access method developed by Microsoft Corp.

"The AS/400 is just about the worst server box for ODBC connectivity," Collins says. "We had reports that were taking hours to run." A bigger AS/400 would have cost an unaffordable $600,000, he adds.

So after six months of attempts at system-tuning, Beringer scrapped the AS/400 in favor of Windows 2000 boxes running Microsoft SQL Server. "The performance difference is dramatic," Collins says.

Other performance problems surfaced as well. Putting the application on fat clients didn't allow the fast response that was needed between remote clients and central servers. Beringer fixed that by moving the client software to a centrally located server running MetaFrame software from Citrix Systems Inc. in Fort Lauderdale, Fla. That had the added benefit of limiting client software updates to just one local computer.

Despite the performance difficulties, Collins describes the actual software migration as "easy as pie." The "magic trick," he says, was the use of J.D. Edwards' change management software, Object Management Workbench.

Testing and Simplicity

COMPANY: Dayton Power & Light

In 2001, The Dayton Power & Light Co. (DP&L) in Ohio migrated from Oracle Corp.'s Release 10.7 for financials, purchasing and inventory to Release 11i. The new release was better able than Release 10.7 to separate data between the company's regulated and nonregulated businesses, says Karen Garrison, application development manager at DP&L. It was also considerably better in its procurement, asset management and workflow management features, she recalls.

The upgrade also moved DP&L from a client/server environment, with fat clients on desktops, to one in which thin clients with Web browsers access central application servers.

Garrison attributes the smooth upgrade to testing, testing and more testing. "We did six mock upgrades," she says. "We'd start a new test instance and go through the entire upgrade process from start to finish. Two of those we did around the clock, just as we would when we went to production."

The IT staff followed Oracle's upgrade methodology, referring to Oracle's documentation as the "cookbook."

"I went so far as to tell everyone that if you have notes on Post-its, we are going to trade desks and make sure you can do it off the cookbook," Garrison says. Sometimes, the contents of those personal Post-it notes were added to the cookbook, she says.

Another key to success, Garrison says, was her insistence on keeping things simple. Although 11i had many attractive new features and options, DP&L decided to defer implementing them until after the base upgrade had been stabilized. The only new functions implemented were those that replaced custom modifications.

"We chose a simplistic approach, so as to not bite off more than we could chew," she says. ▶

MOVING ON UP

To read about ERP upgrades at Acushnet Co. and Remec Inc., visit our Web site.

QuickLink 30950
www.computerworld.com

Airline Portal TAKES FLIGHT

America West's new portal offers a consolidated view of operations that benefits both staff and management. BY DAN VERTON

CASE STUDY

AMERICA WEST AIRLINES is rebounding from one of the toughest economies to face the airline industry in decades with the help of portal technology that integrates operational information from disparate systems into a single, customizable screen.

The Phoenix-based airline last month completed the first phase of an enterprisewide deployment of Computer Associates International Inc.'s CleverPath Portal software. The deployment is part of a larger project to build a single, integrated business-to-employee information portal, called Compass, which over the next two years will integrate data and operations managed by 13,000 employees at 88 locations nationwide.

New IT projects can be a hard sell in the airline industry, says Dan Berkey, director of business technology delivery. "This is a very finance-driven organization. You don't do anything without an ROI, and justifying a portal is obviously very difficult," Berkey said.

Difficult to justify, yes — but desperately needed. From its hubs in Phoenix, Las Vegas and Columbus, Ohio, America West operates 600 daily departures across 88 airports in Mexico, Canada and the U.S. Rapid growth over the years created a patchwork of information support systems, and thousands of desktops contained data accessible only to local users. "We have hundreds of terabytes of data sitting on local hard drives in PCs," says Berkey.

So, with no money on the horizon and a project that still needed to happen, Berkey pressed ahead.

Building the Case

Berkey weeded through 400 vendors before settling on CA. "They offered mainstream technology that was based on open standards," he says. "It's all Java-based, so we didn't feel like we were hooked into a black box."

CA spent two days working with three America West programmers to build a portal prototype using the airline's data. After programmers extracted the data and inserted it into the portal, users could see the operational and financial benefits. Berkey then hit the road to present his case to the company's 40 business units.

The demonstration received its most enthusiastic response from the Systems Operations Control Center (SOCC) in Phoenix. The SOCC receives all of the information necessary to keep airplanes flying, from flight status information and airport weather conditions to maintenance activity, flight plans and crew management data. But at the SOCC, most of that data sharing was done on whiteboards.

The SOCC had outgrown its facility and was in the process moving to a larger facility — something Berkey says is "the equivalent of conducting a brain transplant." It had also outgrown the ability to use whiteboards to share real-time information.

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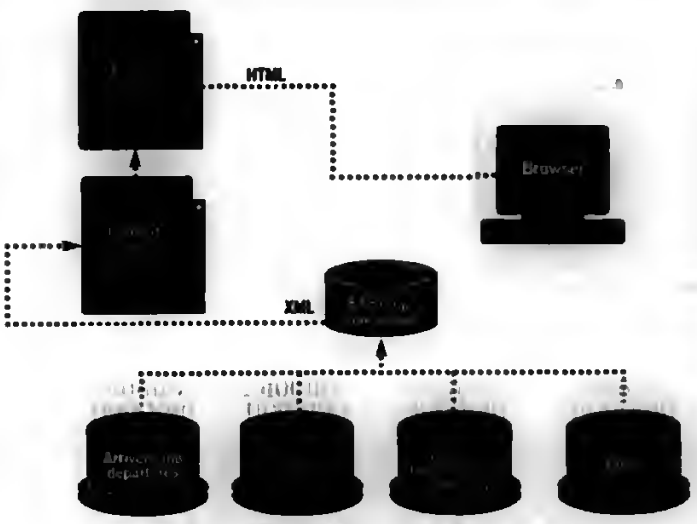


Scheduled, XML-formatted data extracts from legacy systems

SOURCE: AMERICA WEST AIRLINES

panies were learning about the software, he says. "When people ask, 'What would you do differently?' one answer is, 'Don't be a beta site,' " Richards says.

Nevertheless, Richards says the upgrade has paid big dividends. More flexible, fine-grained pricing has increased margins enough to pay for the system in two-and-a-half years, and it has improved customer service and reduced inventories, he says.

Standards Are Key

COMPANY **WellPoint Health Networks**

In 1998, WellPoint Health Networks Inc. in Thousand Oaks, Calif., went live with PeopleSoft Inc. payroll, benefits and human resources software for use by its human resources and payroll staff. In 2001, WellPoint upgraded those client/server applications to PeopleSoft 8.0, a Web-based implementation that opened the system to all employees.

WellPoint is saving $400,000 per year by allowing employees to perform their own benefits enrollment, according to Chuck Moore, vice president for human resource information systems and administration at the company.

But opening up a system to 17,000 new users presented some standardization issues, Moore acknowledges. "We had no clue as to who had PCs; whether they were Windows 3.0, Windows 95 or Windows 97; or what version of Microsoft Internet Explorer they had — or maybe it was Netscape," he says.

Those things matter, Moore says. For example, security for the system requires Secure Sockets Layer encryption that in turn requires Internet Explorer 5.5.

IT people were "the bad guys" in mandating the standards, Moore says. "We said, 'The only way to do an HR transaction is to use your PC, and by the way, you have got to have the standard software.' "

The effort to accommodate all those new users, who initially had unpredictable usage patterns, raised tough questions about processing capacity, especially during peak periods like open enrollment. The answers came through extensive testing, including stress testing, Moore says.

And, he adds, WellPoint's practice is to buy hardware that can be easily expanded. "We buy boxes at the low end, so if my needs are for two CPUs and 1GB of memory, I buy a machine that can hold four CPUs and 20GB."

Performance Tuning Matters

COMPANY **Beringer Blass Wine Estates**

Companies often upgrade their processing infrastructures as part of ERP upgrades, but it's not for the faint of heart, says John Collins, IT vice president at Beringer Blass Wine Estates Holdings Inc. in Napa, Calif.

"People will tell you that it's complicated, not to underestimate it. Well, it's that squared," he says.

The winemaker upgraded its old J.D. Edwards human resources and financial packages from a monolithic environment — "green screens" attached to an IBM AS/400 — to J.D. Edwards' OneWorld, because the new software offered users a much better interface, better import/export capability and the ability to do some of their own report customization.

But the upgrade brought with it some thorny performance problems. The reason: The old J.D. Edwards code was written specifically for the AS/400, but the new platform-independent version uses the Open Database Connectivity (ODBC) access method developed by Microsoft Corp.

"The AS/400 is just about the worst server box for ODBC connectivity," Collins says. "We had reports that were taking hours to run." A bigger AS/400 would have cost an unaffordable $600,000, he adds.

So after six months of attempts at system-tuning, Beringer scrapped the AS/400 in favor of Windows 2000 boxes running Microsoft SQL Server. "The performance difference is dramatic," Collins says.

Other performance problems surfaced as well. Putting the application on fat clients didn't allow the fast response that was needed between remote clients and central servers. Beringer fixed that by moving the client software to a centrally located server running MetaFrame software from Citrix Systems Inc. in Fort Lauderdale, Fla. That had the added benefit of limiting client software updates to just one local computer.

Despite the performance difficulties, Collins describes the actual software migration as "easy as pie." The "magic trick," he says, was the use of J.D. Edwards' change management software, Object Management Workbench.

Testing and Simplicity

COMPANY **Dayton Power & Light**

In 2001, The Dayton Power & Light Co. (DP&L) in Ohio migrated from Oracle Corp.'s Release 10.7 for financials, purchasing and inventory to Release 11i. The new release was better able than Release 10.7 to separate data between the company's regulated and nonregulated businesses, says Karen Garrison, application development manager at DP&L. It was also considerably better in its procurement, asset management and workflow management features, she recalls.

The upgrade also moved DP&L from a client/server environment, with fat clients on desktops, to one in which thin clients with Web browsers access central application servers.

Garrison attributes the smooth upgrade to testing, testing and more testing. "We did six mock upgrades," she says. "We'd start a new test instance and go through the entire upgrade process from start to finish. Two of those we did around the clock, just as we would when we went to production."

The IT staff followed Oracle's upgrade methodology, referring to Oracle's documentation as the "cookbook."

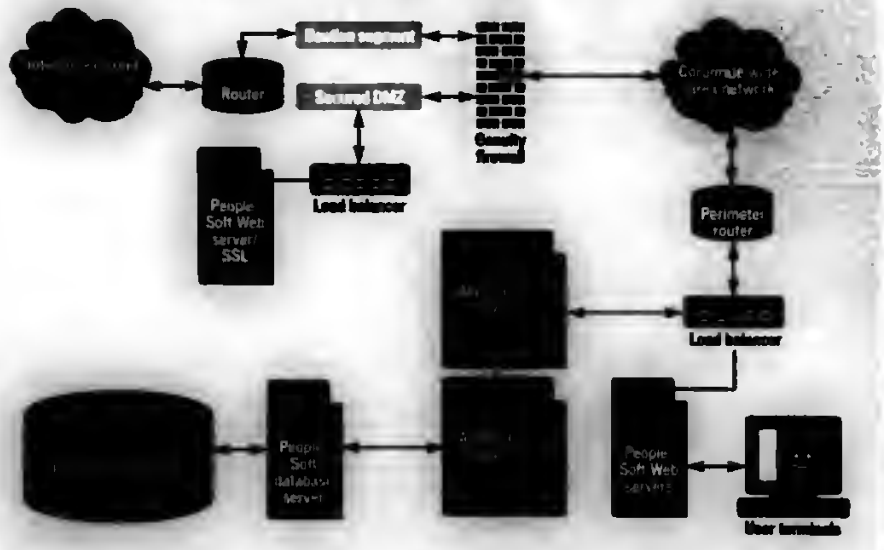
"I went so far as to tell everyone that if you have notes on Post-its, we are going to trade desks and make sure you can do it off the cookbook," Garrison says. Sometimes, the contents of those personal Post-it notes were added to the cookbook, she says.

Another key to success, Garrison says, was her insistence on keeping things simple. Although 11i had many attractive new features and options, DP&L decided to defer implementing them until after the base upgrade had been stabilized. The only new functions implemented were those that replaced custom modifications.

"We chose a simplistic approach, so as to not bite off more than we could chew," she says.

WellPoint Connections

After a major system upgrade, WellPoint Health Networks now offers access to its PeopleSoft human resources system to all 17,000 employees via an intranet and Web servers. Employees at home and on the road, as well as job applicants, can gain access to the human resources system through a hierarchy of firewalls.



MOVING ON UP

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Airline Portal TAKES FLIGHT

America West's new portal offers a consolidated view of operations that benefits both staff and management. BY DAN VERTON

CASE STUDY

AMERICA WEST AIRLINES is rebounding from one of the toughest economies to face the airline industry in decades with the help of portal technology that integrates operational information from disparate systems into a single, customizable screen.

The Phoenix-based airline last month completed the first phase of an enterprisewide deployment of Computer Associates International Inc.'s CleverPath Portal software. The deployment is part of a larger project to build a single, integrated business-to-employee information portal, called Compass, which over the next two years will integrate data and operations managed by 13,000 employees at 88 locations nationwide.

New IT projects can be a hard sell in the airline industry, says Dan Berkey, director of business technology delivery. "This is a very finance-driven organization. You don't do anything without an ROI, and justifying a portal is obviously very difficult," Berkey said.

Difficult to justify, yes — but desperately needed. From its hubs in Phoenix, Las Vegas and Columbus, Ohio, America West operates 600 daily departures across 88 airports in Mexico, Canada and the U.S. Rapid growth over the years created a patchwork of information support systems, and thousands of desktops contained data accessible only to local users. "We have hundreds of terabytes of data sitting on local hard drives in PCs," says Berkey.

So, with no money on the horizon and a project that still needed to happen, Berkey pressed ahead.

Building the Case

Berkey weeded through 400 vendors before settling on CA. "They offered mainstream technology that was based on open standards," he says. "It's all Java-based, so we didn't feel like we were hooked into a black box."

CA spent two days working with three America West programmers to build a portal prototype using the airline's data. After programmers extracted the data and inserted it into the portal, users could see the operational and financial benefits. Berkey then hit the road to present his case to the company's 40 business units.

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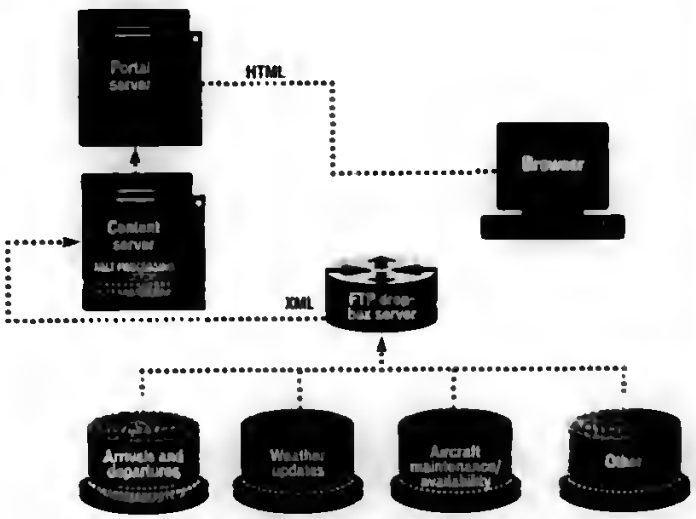

Scheduled, XML-formatted data extracts from legacy systems

SOURCE: AMERICA WEST AIRLINES

Part
desktop.

Part laptop.

Part cocktail napkin.

10 Gig Ethernet: Speed Demon

Outlook: The fastest Ethernet ever delivers on throughput, but high initial prices will likely slow deployments in the near term. By Matt Hamblen

IN ENGINEERING circles, it's called 802.ae, an Ethernet technology that promises blazing fast bandwidth that's capable of pumping the equivalent of 200 full-length digital movies down a strand of fiber in one second.

But even though the Institute of Electrical and Electronics Engineers Inc. approved the final 10 Gigabit Ethernet standard last June, the price of entry — at an average of $50,000 per port — has kept most organizations on the sidelines.

EMERGING TECHNOLOGIES

Early adopters include government and university research institutions, which use the networks in their grid-computing initiatives. Eventually, 10 Gigabit Ethernet may also find a home in the enterprise data center, especially for mirroring and replicating data, says Mark Fabbi, an analyst at Gartner Inc. in Stamford, Conn.

Eventually, 10 Gigabit Ethernet could replace Gigabit Ethernet in server clusters or as a low-latency, high-speed backplane for blade servers, where it may present an alternative to InfiniBand. And 10 Gigabit Ethernet's ability to travel long distances — up to 24 miles — over single-mode fiber makes it a good candidate for high-bandwidth remote data center replication.

The specification also shares a common frame format with Synchronous Optical Network, which could make connections with telecommunications companies' wide-area network services easier.

Finally, 10 Gigabit Ethernet may find its way into storage-area networks as an alternative to Fibre Channel, which currently tops out at 2G bit/sec. The recently introduced iSCSI protocol allows block writes to networked storage arrays over IP networks running Gigabit Ethernet. Ten Gigabit Ethernet could provide a faster medium for some data center applications.

With telecom companies struggling to survive and IT budgets tight, the adoption curve may be slow, analysts say. Many of the existing 10 Gigabit Ethernet rollouts that serve as vendor references took root two years ago, when times were better and IT budgets got easier approval.

"This technology emerged at the same time there was a tremendous downturn in the economy, and IT budgets have since shrunk," says Greg Williamson, associate director of IT services at Arkansas State University in Jonesboro. Williamson is thankful that his campuswide 10 Gigabit Ethernet project was approved more than a year before its launch last May.

"Had it been six months later, we wouldn't have obtained the funding," says Williamson.

As an educational institution, Arkansas State also received a hefty discount. Business users of Cisco Systems Inc.'s 10 Gigabit Ethernet modules face prices starting at $65,000.

"It's very pricey right now," says Zeus Kerravala, an analyst at The Yankee Group in Boston. But analysts expect that price to drop by 30% to 50% in the next year.

"By 2006, the cost will be $5,000 to $6,000 per port," predicts Chandra Kopparapu, director of product marketing at San Jose-based switch vendor Foundry Networks Inc.

Connection Costs

Another expense: Longer-distance connections require expensive single-mode fiber, instead of the relatively inexpensive multimode fiber most companies use.

Although the New York-based IEEE is also considering a specification to support 10 Gigabit Ethernet over copper, distance will likely be limited to 25 meters, and electromagnetic interference could be a problem, says Richard Brand, president of the Gigabit Ethernet Alliance.

Kerravala says he expects an upsurge of 10 Gigabit Ethernet backbone installations for corporate LANs as Gigabit Ethernet to the desktop becomes more popular. Meanwhile, Williamson says he and many other users are already looking forward to the next generation: 100 Gigabit Ethernet. ▶

ETHERNET UPSHOT

Cisco Systems' Bruce Tolley talks about who's buying 10 Gigabit Ethernet – and when prices will come down.

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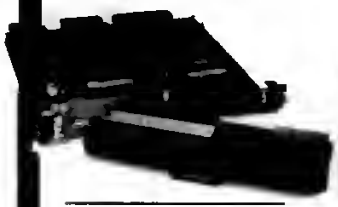

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■ E1200 switch modules: start at **$55,000**

FOUNDRY NETWORKS INC.
San Jose
www.foundrynetworks.com
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NORTEL NETWORKS LTD.
Brampton, Ontario
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■ Passport 8600 switch 10 gigabit LAN interface: **$75,000**; WAN interface: **$90,000**

Computer Clocks Wind Down

Clockless, or asynchronous, circuits march to different drummer. By Gary H. Anthes

HARDLY ANYTHING inside a computer would seem to be more basic, or more necessary, than the processor "clock" — the little crystal oscillator whose rhythmic ticks ultimately regulate everything the computer does. Indeed, we often define computers by their clocks, as in, "I just bought a 2-GHz PC."

Yet clocks aren't necessary for the workings of digital devices, and some researchers predict that clock-regulated circuits will increasingly give way to clockless, or asynchronous, circuits.

In the early days of computing, both asynchronous and synchronous circuits were used in computers, but the latter came to dominate because they were easier to design, test and debug. "But after decades during which clocked logic has imposed its discipline, the older and more anarchic approach seems poised to make a comeback," says Steve Furber, head of the computer science department at Manchester University in England.

FUTURE WATCH

It's becoming increasingly difficult to make processor clocks work correctly as chips get bigger and more complex. In order for operations to be conducted at the right time and in the right sequence, all parts of the chip must see the same "clock face." But clocks are so fast today that a given clock tick won't reach all components on the chip before the next tick occurs, so components at different distances from the clock can get out of sync.

This has forced designers to resort to ever more complex and expensive solutions, such as elaborate hierarchies of busses and circuits that adjust clock readings at various chip locales.

"That's a very expensive way to solve the problem," Furber says. "It's only companies like Intel that can afford the designer effort."

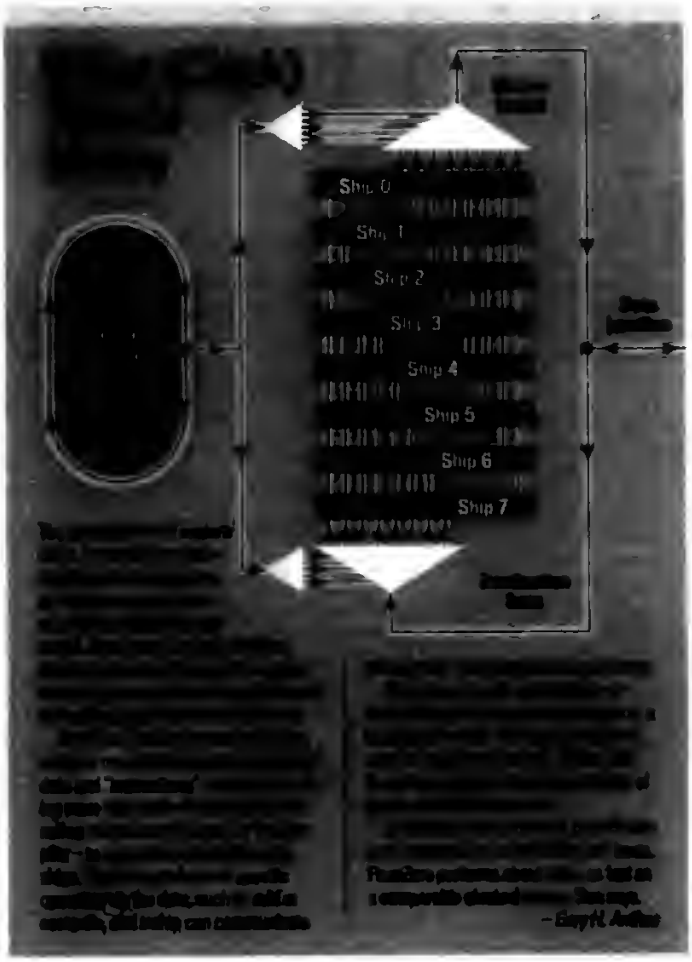
The elaborate clock circuits also draw more power and generate more heat with every new chip generation. Even worse, synchronous circuits perform only as fast as their slowest component. And sometimes the slowest component is the clock itself. Research at Sun Microsystems Inc. shows that logic transistors can spend up to 95% of their time just waiting for the next clock tick to tell them to act.

Manufacturers are experimenting with clockless microprocessors, including some that are completely asynchronous and some that have local components with clocks tied together by asynchronous networks.

Self-Timed Solutions, a Manchester-based start-up cofounded by Furber, has prototype chips of the latter type that it calls "self-timed interconnects." Furber describes his chips as asynchronous "network fabrics" into which it's easy to plug synchronous and asynchronous "clients" — such as processors or memory blocks that operate at different frequencies. That will let designers sidestep the difficult and expensive task of making processors globally synchronous, be says.

Asynchronous circuits can perform faster than synchronous ones, since their components aren't limited by the pace of clock ticks. And because they draw less power and generate less heat, they are likely to find applications in mobile devices. Philips Electronics NV has already put asynchronous microcontrollers in some of its pagers.

Sun will ship its new UltraSPARC IIIi processor with clockless circuits that pass data between memory modules and memory controllers. By making these data transfers independent of clock timing, the circuits are simpler, more reliable, easier to modify and potentially faster, says Jo Ebergen, a senior staff engineer at Sun.



"Asynchronous techniques will be adopted more and more in mainstream chip designs," Ebergen says. "Bigger parts of the chip will become completely asynchronous."

Design Challenges

But asynchronous computing presents design challenges. By definition, clockless circuits operate in a more uncoordinated way. That results in sequences of events that aren't completely predictable, just as it's easier to predict the motion of marching soldiers than that of pedestrians on a sidewalk. Ways to deal with that unpredictability must be built into chip designs.

Moreover, asynchronous devices have nowhere near the infrastructure of design and test tools or the expertise that has been built up for synchronous devices at a cost of billions of dollars.

"Expertise is one of the biggest hurdles," says Chris Myers, an associate professor of electrical and computer engineering at the University of Utah in Salt Lake City. "Few universities in the U.S. teach asynchronous circuits."

Myers says the industry will move gradually toward chip designs that are "globally asynchronous, locally synchronous," in which little synchronous islands operating at different clock speeds communicate through some kind of asynchronous buffer or "fabric."

"It's not going to be the revolution that some of us predict," Myers says. "It's going to be little by little."

SOFTWARE FOR ASYNCHRONY

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State University Boosts LAN Backbone

Greg Williamson recently oversaw the installation of a 10 Gigabit Ethernet backbone at Arkansas State University. The educational institution has about 22 miles of single-mode fiber-optic cable linking 27 buildings. In four of those locations, the campus network includes redundant Cisco Catalyst 6513 switches with 10 Gigabit Ethernet modules.

Williamson says his goal in rolling out the 10 Gigabit backbone was partly to support Gigabit Ethernet to the desktop, but mostly to "future-proof" his network to guard against an anticipated "exponential" growth in online class enrollments and the need to move giant audio and video files as teaching styles change.

The backbone will also be used to support a new IP telephony system, he says.

But future-proofing is a luxury for most businesses.

"Enterprises should not invest in 10 Gigabit Ethernet until they have a business reason," such as saving costs or increasing revenue, warns Gartner analyst Mark Fabbi.

"The days of investing in new technology for technology's sake are behind us."

– Matt Hamblen

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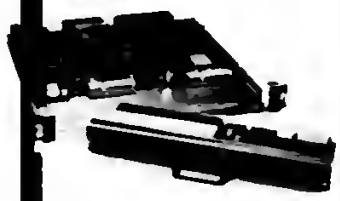

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Computer Clocks Wind Down

Clockless, or asynchronous, circuits march to different drummer. By Gary H. Anthes

HARDLY ANYTHING inside a computer would seem to be more basic, or more necessary, than the processor "clock" — the little crystal oscillator whose rhythmic ticks ultimately regulate everything the computer does. Indeed, we often define computers by their clocks, as in, "I just bought a 2-GHz PC."

Yet clocks aren't necessary for the workings of digital devices, and some researchers predict that clock-regulated circuits will increasingly give way to clockless, or asynchronous, circuits.

In the early days of computing, both asynchronous and synchronous circuits were used in computers, but the latter came to dominate because they were easier to design, test and debug. "But after decades during which clocked logic has imposed its discipline, the older and more anarchic approach seems poised to make a comeback," says Steve Furber, head of the computer science department at Manchester University in England.

FUTURE WATCH

It's becoming increasingly difficult to make processor clocks work correctly as chips get bigger and more complex. In order for operations to be conducted at the right time and in the right sequence, all parts of the chip must see the same "clock face." But clocks are so fast today that a given clock tick won't reach all components on the chip before the next tick occurs, so components at different distances from the clock can get out of sync.

This has forced designers to resort to ever more complex and expensive solutions, such as elaborate hierarchies of busses and circuits that adjust clock readings at various chip locales.

"That's a very expensive way to solve the problem," Furber says. "It's only companies like Intel that can afford the designer effort."

The elaborate clock circuits also draw more power and generate more heat with every new chip generation. Even worse, synchronous circuits perform only as fast as their slowest component. And sometimes the slowest component is the clock itself. Research at Sun Microsystems Inc. shows that logic transistors can spend up to 95% of their time just waiting for the next clock tick to tell them to act.

Manufacturers are experimenting with clockless microprocessors, including some that are completely asynchronous and some that have local components with clocks tied together by asynchronous networks.

Self-Timed Solutions, a Manchester-based start-up co-founded by Furber, has prototype chips of the latter type that it calls "self-timed interconnects." Furber describes his chips as asynchronous "network fabrics" into which it's easy to plug synchronous and asynchronous "clients" — such as processors or memory blocks that operate at different frequencies. That will let designers sidestep the difficult and expensive task of making processors globally synchronous, he says.

Asynchronous circuits can perform faster than synchronous ones, since their components aren't limited by the pace of clock ticks. And because they draw less power and generate less heat, they are likely to find applications in mobile devices. Philips Electronics NV has already put asynchronous microcontrollers in some of its pagers.

Sun will ship its new UltraSPARC IIIi processor with clockless circuits that pass data between memory modules and memory controllers. By making these data transfers independent of clock timing, the circuits are simpler, more reliable, easier to modify and potentially faster, says Jo Ebergen, a senior staff engineer at Sun.

"Asynchronous techniques will be adopted more and more in mainstream chip designs," Ebergen says. "Bigger parts of the chip will become completely asynchronous."

Design Challenges

But asynchronous computing presents design challenges. By definition, clockless circuits operate in a more uncoordinated way. That results in sequences of events that aren't completely predictable, just as it's easier to predict the motion of marching soldiers than that of pedestrians on a sidewalk. Ways to deal with that unpredictability must be built into chip designs.

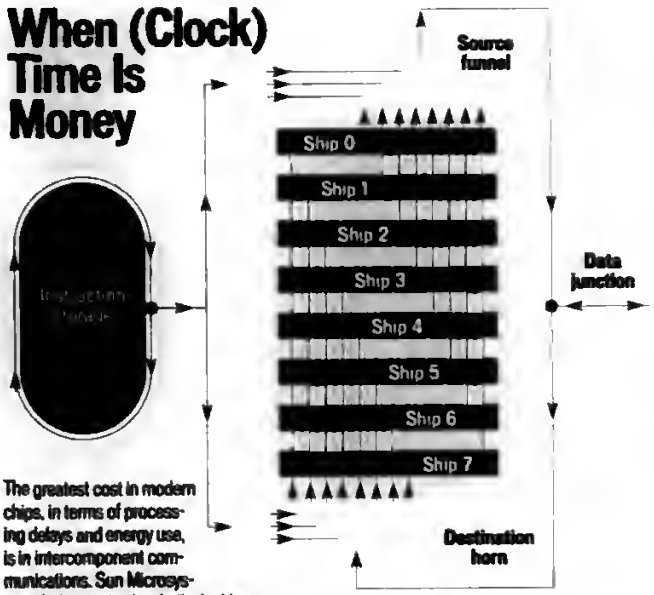
Moreover, asynchronous devices have nowhere near the infrastructure of design and test tools or the expertise that has been built up for synchronous devices at a cost of billions of dollars.

"Expertise is one of the biggest hurdles," says Chris Myers, an associate professor of electrical and computer engineering at the University of Utah in Salt Lake City. "Few universities in the U.S. teach asynchronous circuits."

Myers says the industry will move gradually toward chip designs that are "globally asynchronous, locally synchronous," in which little synchronous islands operating at different clock speeds communicate through some kind of asynchronous buffer or "fabric."

"It's not going to be the revolution that some of us predict," Myers says. "It's going to be little by little."

When (Clock) Time Is Money



The greatest cost in modern chips, in terms of processing delays and energy use, is in intercomponent communications. Sun Microsystems Laboratories has built clockless circuits that reduce the cost of communications by moving the routing of data and instructions from hardware to software.

FleetZero is a high-speed switching network-on-a-chip that steers packets of data and "instructions" – which are nothing more than pairs of source and destination addresses produced by the compiler – to processing elements called ships. Each ship performs a specific operation on the data, such as add or compare, and a ship can communicate with another component such as memory.

The source funnel, a switching network, routes data from many sources to a single destination. The destination horn, another switching network, routes data items from a single source toward one of many possible destinations.

Instructions are performed by each ship at its own pace on a first-in/first-out basis. FleetZero performs about twice as fast as a comparable clocked device, Sun says.

– Gary H. Anthes

SOFTWARE FOR ASYNCHRONY

What do asynchronous circuits mean for software? Find out more on our Web site

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Grid Computing

BY SAMI LAIS

IN A SORT OF digital interpretation of the adage, "Waste not, want not," the basic idea of grid computing is to use the computational power of idle PCs and harness those heretofore wasted cycles to form a virtual supercomputer.

The most well-known grid computing implementation — as well as the world's largest distributed computer — is that of the Search for Extraterrestrial Intelligence project (SETI@home).

A brainchild of the University of California, Berkeley, SETI@home uses idle, Internet-connected PCs all over the globe to supplement the work done on a supercomputer at the Berkeley campus [QuickLink a2800]. SETI@home has raised awareness of grid computing, but it has also relegated it to the realm of science fiction in many people's minds.

On the contrary, thanks to advances in grid computing's underlying technology, businesses can use their networks to undertake complex computing tasks such as designing machinery and performing what-if scenarios based on vast financial databases. Someday, it may be possible for grid computing service providers to create virtual supercomputers and rent processing time to businesses anywhere in the world.

Grid computing works by distributing computational resources but maintaining central control of the process. A central server acts as a team leader and traffic monitor.

This controlling cluster server divides a task into subtasks, then assigns the work to computers with surplus processing power on the grid. It also monitors the processing and, if the subtask routine fails, it will restart or reassign it. When all the subtasks have been completed, the controlling cluster server aggregates the results and advances to the next task until the whole job is completed.

DEFINITION

Grid computing is a hardware and software infrastructure that clusters and integrates high-end computers, networks, databases and scientific instruments from multiple sources to form a virtual supercomputer on which users can work collaboratively.

QUICK STUDY

In a grid campus, a hierarchical structure of many grid servers may handle subtasks, but all processing occurs on a single network.

In a global grid, machines can be on many different networks and on the Web. Because they're processing in so many different circumstances, network latency can be a problem. But before any processing can occur, available resources must be identified and located. Access to them must be negotiated, and the hardware and software must be configured to effectively use the resources, which often are many smaller computers.

Commercial Use

As the trend toward larger storage capacity and faster processing power continues unabated, scientists are planning to experiment with petabyte data archives in a few years. And industry giants such as IBM, Microsoft Corp., Oracle Corp. and Sun Microsystems Inc. are racing to develop grid computing strategies.

"There's been a tremendous interest in grid computing from the commercial side," says Ian Foster, a director of the Globus Project of Argonne National Laboratory and a computer science professor at the University of Chicago. "Initially, the interest is in using technology as a means of making more efficient use of computing resources."

Foster says advances in three areas are driving interest and development in grid computing: ubiquitous connectivity via the Internet, the dramatic increase in network performance and the development of collaboration tools and the acceptance of collaboration as a viable way to work.

But pinning down what is and isn't a grid can be a knotty question. An argument can be made that all network computing is a form of grid computing. Should the definition derive from size, purpose, architecture or some other criteria? Foster has proposed a grid checklist. For an aggregation of computers to be a grid, he says, it must do the following:

- Coordinate resources that aren't subject to centralized control.
- Use standard, open, general-purpose protocols and interfaces.
- Deliver quality service.

"The creation of large-scale infrastructure requires the definition and acceptance of standard protocols and services, just as the Internet protocol TCP/IP is at the heart of the Internet," Foster says.

The Globus Project and the Global Grid Forum are working on defining those standards and protocols. The project also researches and develops ways to apply grid computing concepts to scientific and engineering computing.

The open-source Globus Toolkit, developed by the Argonne National Laboratory and the University of Southern California, provides security protocols and services such as resource discovery, resource management and data access and software libraries that support grids and grid applications.

Several groups from science and industry are working on standards, Foster says. They share many of the same concerns. "Every site is concerned about security, about protecting their data. Everyone is concerned about network management costs and interoperability," Foster says.

Lais is a Computerworld contributing writer in Takoma Park, Md.

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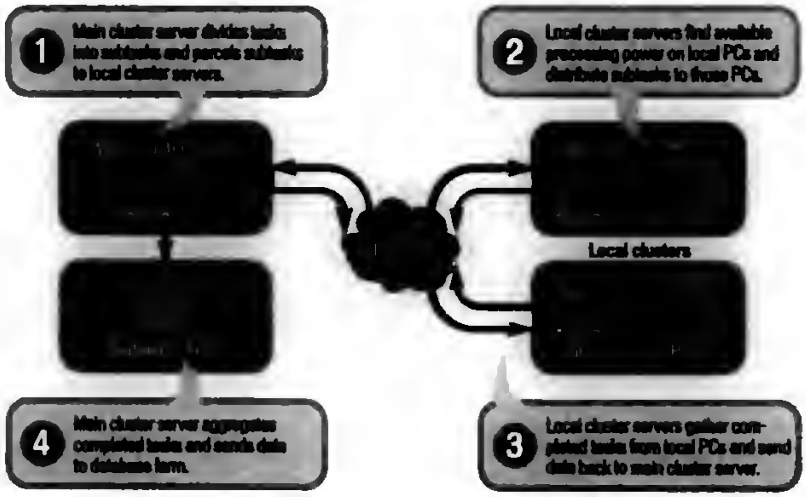
How It Works

In the global grid computing scenario, unused processing power on local clusters of computers scattered across the Internet would be harnessed to address a single, complex application.


1
Main cluster server divides tasks into subtasks and parcels subtasks to local cluster servers.
2
Local cluster servers find available processing power on local PCs and distribute subtasks to those PCs.
Local clusters
4
Main cluster server aggregates completed tasks and sends data to database farm.
3
Local cluster servers gather completed tasks from local PCs and send data back to main cluster server.

Government Subpoena Sidelines PKI Project

A court order sentences our security manager to two weeks of hard labor creating forensic images of employee hard drives. By Mathias Thurman

NOW THAT my company's wireless LAN project is under control and ready for deployment, I thought I could start my research project oo public-key infrastructure (PKI). That was before the feds dropped by this week with a subpoena. But more on that in a moment.

With regard to PKI, I have a feeling that once my company sees the costs involved, it will more than likely find some way of postponing or even killing the project. Uotil that decision is made, however, I'm pressing on with the feasibility study and will provide some pricing options to the executive staff. As part of the study, I plan to assemble a list of areas within the company that I feel could benefit from PKI.

SECURITY MANAGER'S JOURNAL

The obvious areas include e-mail, disk and file encryption, and virtual private network (VPN) access. To further assist me in determining other areas that would benefit, I've scheduled meetings with representatives from different departments. I need to understand all the enterprise applications being used within the company and get a feel as to how receptive key managers and employees will be to a PKI implementation.

One of the traditional problems with PKI is that most people don't really understand the technology and how it could benefit them and their companies. Most of the time, each employee has his own idea or interpretatioo of what PKI is and what it can offer. By meeting with key individuals from each department, I can determine whether PKI might benefit each area.

For example, in talking with a representative from the professional services group, I learned that we have a Web-based professional services automation (PSA) tool, which is currently accessed via a VPN connection from employee laptops. There is some frustration within the team, as some of our company engagements are in government facilities that don't allow us to use our laptops. They do, however, let our consultants use the government computer systems to access the Internet (go figure). PKI would allow our employees to obtain a short-term certificate that they could use to access the PSA tool.

I've spent a considerable amount of time oo wireless connectivity within the company. By using PKI, I can control wireless access by issuing certificates to those individuals who should be allowed access. The certificates can be stored in a Universal Serial Bus-type device that's small enough to fit on a key chain, or the certificates can be stored on the user's laptop. Once I get a handle on which departments and applications can benefit, I can formulate a request for information and submit it to a few PKI integrators. We hope to find one company that can handle all of our requirements. A PKI implementation will require a substantial amount of money, however, so at this point, I suspect that we will back off.

> One of the problems with PKI is that most people don't really understand the technology and how it can benefit them.

Full-Court Press

Just when I felt I was gaining some momentum on the PKI project, however, I got sidetracked. My boss called me to his office to inform me that a federal investigation is under way, and our company has been asked to provide information. We're not the subject of the inquiry, but several of our employees might have information or have entered into business transactions with the company under investigation. So we got slapped with a subpoena that says we must create and forward to investigators hard-drive images of PCs belonging to dozens of our employees. Two-thirds of them are located at our corporate headquarters; the others are at many of our other locations in the U.S.

Fortunately, our responsibility is to provide only the mirror images, not any analysis of those images. To conduct a forensic analysis of that magnitude would take weeks, if not months, to accomplish. And with my current workload, I definitely don't have the resources to do that.

Although a forensic investigation sounds cool, it's actually very boring work. Searching through dozens of DVD media for a specific file isn't my idea of fun. Therefore, I'm more than happy to outsource that work whenever possible. In this case, to save time and money, we decided to outsource imaging of all remote systems and handle only the local drive images in-house. We have had success in the past with one forensics firm, so we'll use it again.

For the in-house work, we'll use Pasadena, Calif.-based Guidance Software Inc.'s EnCase Forensic software. We'll save the results to DVD media and give that to our general counsel. Although we have EnCase, the decision to use this tool wasn't ours. Rather, the investigating agency has specifically requested that the image files be created using this tool.

I've already started work on the mirror images and figure it will take about two weeks to complete. Fortunately, I have to be present only to connect the suspect drives to one of my forensics-dedicated computer systems. Once the imaging process is under way, I can go back to work. One word of advice: If you have to image a laptop, don't forget to plug in the external power adapter, because there is no Resume function if an image-processing operation is interrupted. I learned that the hard way.

WHAT DO YOU THINK?

This week's journal is written by a real security manager. "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum:

QuickLink a1590

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SECURITY LOG

QUICK REVIEW

EnCase Forensic

www.guidancesoftware.com

Never used Forensic software? Guidance Software makes the task of imaging and analyzing easy. To create a disk image, you boot the target system with a floppy disk, then attach a computer running EnCase by way of a parallel port or network connection. Imaging an entire hard drive takes only a few minutes, and you can save the data to external media or analyze it immediately. My favorite feature includes the ability to view images within an application and to search the entire drive for an IP address or keyword. Version 4.0, which adds email search, adds better analysis of New Technology File System (NTFS) file structures, encrypted NTFS files and RAID storage. A comparable system is $2,495.

—Mathias Thurman

Year of the Worm

In a year that saw a number of high-profile virus outbreaks, the Klez worm topped the charts as the most frequently reported virus/worm during the first 10 months of 2002, according to Sophos PLC in Abingdon, England. Klez accounted for 24% of all viruses reported to customer support representatives of the anti-virus company this year.

Advance Zapper

Windows users horribly remember Nimda, Code Red and Klez, but how do you delete viruses and worms that might be already on your computer? Trend Micro Inc. in Cupertino, Calif., has released HouseCall, a free online virus-scanning service that checks your computer for viruses before downloading the latest virus definitions. Full-scan results are sent from Seattle, U.S.-based [illegible] Technologies Inc. to your e-mail address. Trend Micro also has a free virus-scanning service for Palm OS handhelds.

BRIEFS

Socket Builds in Security to New Wireless LAN Card

Socket Communications Inc. in Newark, Calif., introduced what it called the first wireless LAN CompactFlash card with built-in 802.1x security protocols. The card is designed for use in Pocket PC hardware and will sell at a suggested retail price of $169.

The 802.1x protocol defends WLANs by requiring client devices to engage in an authentication with a central server before the client can sign on to the network.

XAware Offers RIXML Tools

XAware Inc. in Colorado Springs last week announced the availability of a suite of software components for implementing the Research Information Exchange Markup Language (RIXML).

RIXML, an XML standard for the financial services industry, allows companies to assimilate and distribute research information. The XAware software lets developers use Common Information Model and XML-based standards for interoperability and helps them create applications that meet the RIXML standard.

Prices range from $15,000 to $30,000, depending on server and database configurations.

CA Ships New Version Of Backup Software

Computer Associates International Inc. in Islandia, N.Y., last week announced that it is shipping Version 9 of BrightStor ARCserve Backup for NetWare. The product allows data from Novell NetWare, Microsoft Windows, Linux and Unix servers to be backed up to a Novell NetWare server. The new version has improved usability, as well as performance and reliability enhancements, CA said. The release will be available in early 2003, and pricing starts at $695.

ROBERT L. MITCHELL

Facing the Grid Reality

WILL GRID COMPUTING ever amount to more than an overhyped vertical market sideshow?

Corporate IT could be excused for asking that question. The technology is widely — and correctly — viewed as something used in vertical market niches: for crash simulations, cracking the human genome or complex financial modeling tasks, but certainly not for more general business computing. And yet corporations could eventually use grids as a medium for aggregating and managing access to a broad range of computing resources beyond CPU cycles, including distributed storage and applications.

Those outside the traditional grid-computing niches, however, might identify the technology as an experiment in computer socialism, hatched in the universities and implemented in projects like SETI@home, in which millions of people share the CPU cycles in their home PCs over the Internet for the higher purpose of detecting radio signals from extraterrestrial life forms.

More recently, Gateway jumped in with its plans to use software from grid software vendor United Devices Inc. to harness unused processing power in 8,000 in-store PCs nationwide and sell that power to businesses for 15 cents per processor hour.

The publicity from that announcement may create a welcome diversion from Gateway's revenue woes, but investors shouldn't hold their breath. The few IT organizations with applications that benefit from compute grids today aren't likely to run those across thousands of retail-store PCs, no matter what security assurances Gateway offers.

More interesting is the idea of using grid technology as an easier way to create federated access to a mix of heterogeneous computing resources for remote office users or business partners, whether connected across wide-area networks or the Internet.

Avaki Corp.'s recently released Data Grid 3.0 is one example. The software, which starts at $25,000, provides any application with secure access to any distributed data source on the grid. The grid server has its own directory that creates a single, unified view of available storage resources. Grid users and groups can be defined within the Data Grid software or by leveraging an LDAP-compliant directory service like Active Directory. Avaki's software can provide authentication services directly or through the enterprise directory service. Data Grid then establishes access controls, uses https to slip through firewalls and can encrypt sessions with SSL.

Who would want to do that? One example might be a manufacturer that needs to share specification and design data with suppliers. Normally, IT might create restricted user accounts and VPN connections or stage the data down to a separate server that's accessible outside the corporate firewall. But managing that can get out of hand, says Avaki CTO Andrew Grimshaw.

"One manufacturer had 3,500 bilateral arrangements set up — 3,500 separately firewalled and managed systems to manage relations with suppliers," he says. "With a data grid, you can share out a set of files. I can directly access those files, but I don't have an account on your machine."

Since data grids can be set up rapidly and without modification of existing IT infrastructure, another application might be to allow data access between two merging organizations until their IT infrastructures can be consolidated. But Avaki didn't close the sale to the manufacturer with all the bilateral agreements, and most of its customers remain in the traditional industry niches.

What's holding corporate IT back? A lack of standards is the big hurdle, particularly in security. The Global Grid Forum (GGF) is working on a Grid Security Infrastructure specification based on emerging Web services security standards. And its Open Grid Service Infrastructure and Open Grid Service Architecture efforts could enable multivendor grid interoperability someday. But these standards are still evolving.

It's likely to be several years before the pieces fall into place and corporations feel comfortable expanding grids in these ways. Case in point: The vendors that make up the GGF can't even agree on the need for a certification process and compliance testing once standards are in place. "A definition of *compliant* hasn't even been agreed upon," laments Jijkku Venket, vice president of engineering at United Devices.

Another GGF member adds, "Compliance testing seems like a good idea to me, but that is not a universally held opinion. Some [GGF members] say standards are just the starting point, and then you lock your customers into the [product]."

Vendors can be assured corporate IT won't jump aboard in a big way until the industry gets its house in order. If grid-computing vendors get serious about developing and enforcing real standards, the technology could become much more than a sideshow.

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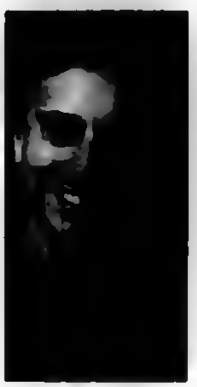

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Peer to Peers: Making Security Pay
Security is typically seen as a "grudge spend," but management can't afford not to make security pay off. Companies need to identify and implement measures to protect their organizational assets, writes Steve Crutchley, a chief security officer and this week's columnist. **Page 39**

Speedy Cures
Covance Inc.'s Richard Enz (left) says Sybase offered the best way to integrate data for the clinical researcher's new portal, which is expected to shave at least two weeks off costly clinical trials. **Page 36**

QUOTE OF THE WEEK

"It finally dawned on us. . . . It has to be about making it so easy to do business with you that suppliers can't resist being a partner."

– Pat Dempsey-Klott, e-business program manager, U.S. Army Tank-Automotive & Armaments Command

Getting internal agreement on who to buy from remains a major e-procurement challenge. So does coaxing certain suppliers online.
By Matt Hamblen

After THE Hype

THREE YEARS AGO, at the height of its hype, business-to-business e-procurement was pretty much about going online to buy printer cartridges, copier paper and other everyday supplies.

Today, companies are electronically shopping and paying for a vast array of goods and services, from airplane parts and heating oil to temporary administrative and legal help.

What differs the most, though, isn't so much what they're buying but how they're executing the transactions. As for challenges, the major ones remain getting all suppliers to do business online and securing agreement internally to do business with a smaller group of suppliers, says Laurie Orlov, an analyst at Forrester Research Inc. in Cambridge, Mass.

Some companies, including FedEx Corp. in Memphis and Wal-Mart Stores Inc. in Bentonville, Ark., are building systems that connect to thousands of their own authorized suppliers. Other organizations happily allow users to buy online from a variety of sources, using little more than a list of user names and assigned passwords for accessing vendor sites.

"You can do e-procurement on the cheap and do it big if you don't need certain controls," notes Kip Martin, an analyst at Meta Group Inc. in Stamford, Conn. E-procurement technically even includes sending out an e-mail that tells workers "buy the right stuff from the right sites, or we won't reimburse you."

At $20 billion FedEx, e-procurement has gone big-time. E-procurement systems from three major vendors, each handling different parts of the puzzle, have resulted in online purchasing of more than half of the company's goods. All of FedEx's 120,000 employees can go online to buy, mostly from an authorized list of suppliers.

"We think e-procurement has lived up to the hype, yes," says Zondra Brown, manager of business systems support. "We completely reinvented the processes. All of our initiatives rolled out so far have returned investment in less than the first year."

FedEx uses e-procurement and finance software from Ariba Inc. in Sunnyvale, Calif., PeopleSoft Inc. in Pleasanton, Calif., and Elance Inc., also in Sunnyvale.

Brown's enthusiasm for e-procurement is countered by concerns of leaders in certain industries, such as the chemical industry, who note a slowness to move to industry-specific e-commerce hubs for trading. Slow adoption might be due to the poor economy or a specific industry's reluctance to change, or even to the peculiarities of selling a project internally, users say.

Ease of Doing Business

A lack of trust is another stumbling block. In a survey of 60 procurement agents at U.S. companies conducted by Jupiter Media Metrix Inc. last year, 45% of respondents said a lack of trust prevented them from buying goods and trading online more frequently.

"I am always surprised by the fact that e-procurement has not taken off like all of the hype two years ago made it sound like it would," says Pat Dempsey-Klott, e-business program manager at the Warren, Mich.-based U.S. Army Tank-Automotive & Armaments Command. The Command purchases everything from personal watercraft to tugboats and repair services online as a way to cut costs and streamline processes.

After THE Hype

Continued from page 33

"I think there was a lot of grand planning, and when it came right down to it, there was not eoough business-side involvement," says Dempsey-Klott. "The technical wonders of the process sometimes get touted more than the business side."

Yet e-procurement is growing as a means of purchasing, even as sales of e-procurement software have slipped, analysts say. Research firm IDC expects large companies globally to buy $225 billion worth of goods and services this year through a combination of Internet-connected e-procurement and older electronic data interchange (EDI) systems. That represents a 48% increase over 2001, according to Framingham, Mass.-based IDC.

Meanwhile, Gartner Inc. in Stamford, Conn., reports that global sales of e-procurement software totaled nearly $1 billion in 2000 and $757 million in 2001. The figure should be smaller for 2002, as is the case with enterprise resource planning and supply chain management software, says analyst Charles Eschinger. "None of these software markets are doing very well," he says. "There was an overzealous buying before, and this software was going to save the world."

Dempsey-Klott says her purchasing group "pounded the EDI drum" for years and couldn't figure out why more suppliers weren't coming on board. "It finally dawned oo us" that many suppliers were small shops that didn't understand the technology or couldn't afford it, she says. But then her group began offering a free Web-based application that allows suppliers to invoice once and cut several steps from the older processes. "It has to be about making it so easy to do business with you that suppliers can't resist being a partner," she says.

Relationships Still Count

So, aside from technology, e-procurement success depends on marketing well to suppliers. "Relationship management is pretty critical, no matter wbich organization is involved," says Martin.

Companies' successes have been measured many ways, although big companies such as FedEx won't reveal many details. FedEx's use of the Aeroxchange Ltd. airline industry exchange in Dallas has allowed the company to pay lower prices for airplane parts than if it bought them directly from a supplier, Brown says.

Been There, Done That

FedEx's Zondra Brown, manager of business systems support, has been involved with e-procurement since it started at the package carrier. She talked with Matt Hamblen and offered advice to other companies just starting out.

What are some tips you'd give to others setting up an e-procurement system? Documenting and gathering business requirements in the implementation phase is very important. Engaging suppliers and showing them the benefits to what you are changing is also [important]. Benchmarking with other companies about how they did things allows you to come up with things to sell to upper management.

What's the future? The focus is turning to online [to procure] services, including temporary jobs and contracting, consulting, legal and marketing, mobile services, facilities, and pest and waste management. From 55% to 65% of our annual spending is on services.

How has setting all this up affected you personally? I wouldn't work in another part of the company. I love it. We save the company money, keep money at the bottom line, add value and make a difference and see the difference all in the same year. There's a quick turnaround and quick adoption, and that's very satisfying for me.

However, at Boston's Northeastern University, with 1,700 employees and another 1,000 faculty members, e-procurement has involved nothing more than giving dozens of passwords to purchasing personnel to access preapproved sites on the Internet where they can buy items and services from approved lists. Assigning passwords to buyers keeps administration of the system at a minimum, says Walter Lind, director of purchasing. Paper and errors have been reduced at the school since it first started using online procurement sites three years ago. In a recent quarter, more than 1,100 purchases were made online.

A big plus of the simple system is that the school doesn't have to do very mucb training of users. It even leaves the task of marketing the process to the vendors that sell to the school online. These include a new temporary help site and an office supplier, Corporate Express Inc. in Broomfield, Colo. "University employees are embracing it and using it," Lind says.

One project the school is undertaking will create a single portal to allow all buyers to use a single password to reach various authorized buying sites, instead of requiring multiple passwords per user.

Northeastern could have headed in another direction, however. "I recall a perind a few years ago when I was getting constant calls from e-procurement vendors, all of them coming out of the woodwork," Lind says. But the school went with the security and other systems offered by selling sites such as Corporate Express, which has moved beyond paper products to supply a range of equipmeot that the college needs.

"One can implement a good online ordering program without using an e-commerce vendor, which means minimal IS involvement, no license fees and no exchange of dollars," he adds.

Software Can Help

Meta Group's Martin says that a bare-bones approach can work well, especially if an institution trusts its buying agents. But he adds that e-procuremeot software helps when a company needs to guard against theft and watch spending closely. "If you want to figure out what you're spending and with whom and drive compliance and consolidate spending around certain vendors or items, you oeed a system," he says.

Developmeot skills are needed to set up systems using XML and Java, analysts and users say. In the current economy, those skills haven't been that hard to find. At FedEx, many developers learned the technology on their own, Brown says.

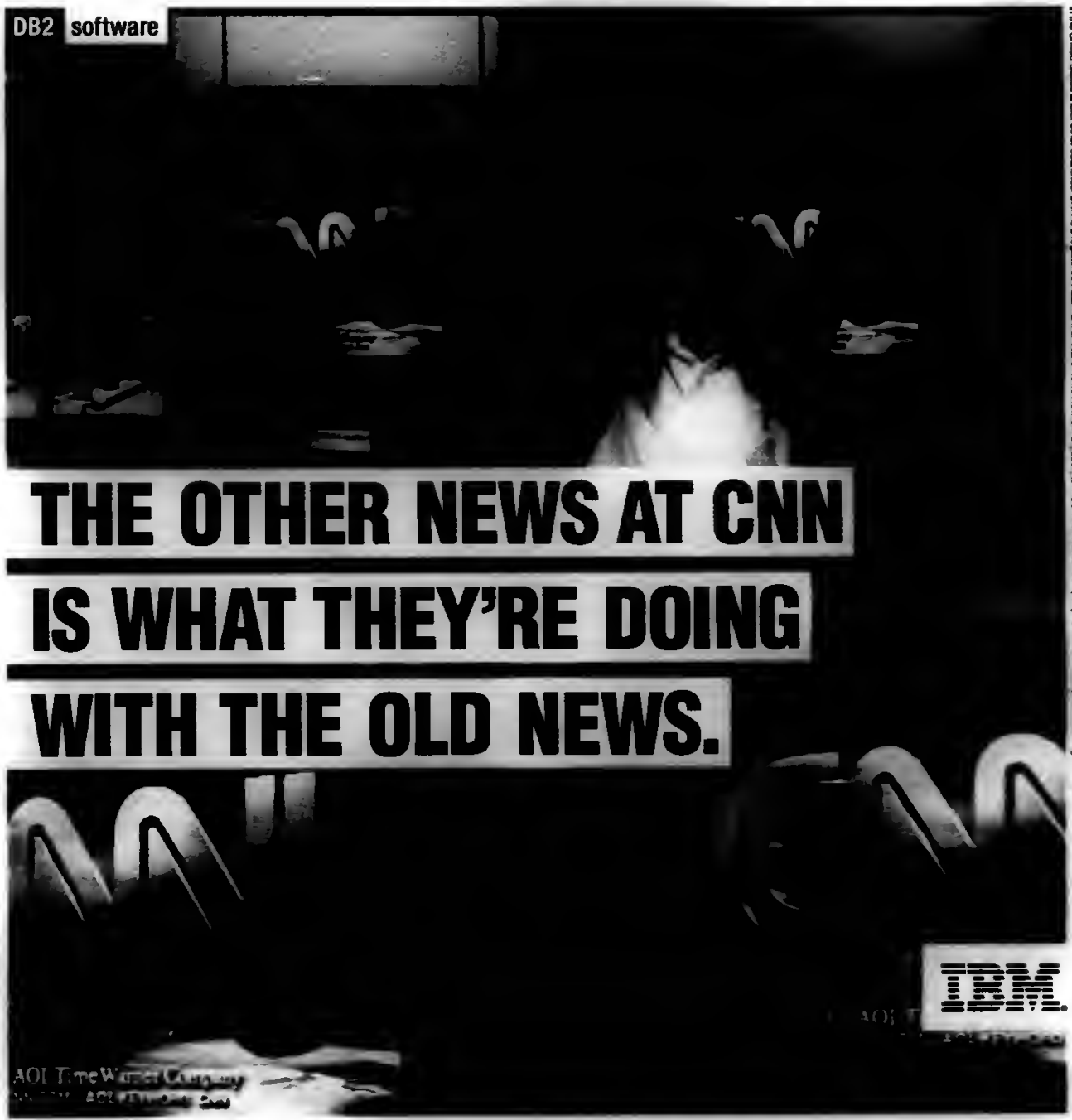
Despite lagging sales of e-procurement software and some internal problems faced by the vendors, just about everybody predicts a promising future for the products and for online trading of goods and services. "There's a huge future for e-procurement, just because everybody buys stuff," Martin says.

E-procurement of all kinds of services will increase, users say, although IDC predicts that materials and services procurement will continue to account for the "large majority" of commerce in the next few years. IDC also predicts that the level of e-procurement trading by large companies globally will grow from the current $225 billion to $1.5 trillion by 2006. "The extensive conversioo of existing EDI systems to an Internet foundation will be the primary force behind the cootinued expansioo in e-procurement," IDC analysts wrote in a recent study.

Online exchanges were big two years ago, but interest in them has mostly petered out, Martin adds. The Enron Corp. failure didn't help.

But one emerging trend will continue, Martin says, in which companies will consider the security issues and what they are willing to pay and say, "I want to be able to connect well with a few, or I want a few partners tightly integrated, but not all of them."

Experts predict that now that the hype is over, businesses will get down to finding the most profitable ways to use the technology.



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JOYCE HEBERLEIN

There are tech bargains to be had through online auctions, but there are big risks, too. Some IT managers talk about their experiences. **By Steve Ulfelder**

Great D

KURT WARNER rookie card in mint condition, $9.99. Yawn. Fiestaware salad plates, $14.99. Ho-hum. Cisco 7507-MX with the Route Switch Processor 8, $34,985. Now you're talking!

Times are tight, budgets are pinched — a recent survey by Boston-based Aberdeen Group Inc. finds that businesses are holding the line on hardware spending again this year, with projected growth rates of 2% — and, as a result, some companies are satisfying their IT equipment needs through online auctions.

It's hard to argue with the prices. Some IT executives say auctions help them save up to 75% off list prices. In some cases, such savings make it feasible to buy spare servers or routers in case one turns out to be a dud.

Nevertheless, the arguments against buying hardware at auction are many and persuasive. For example, the money you save on a server that you use as a network access point will seem like chump change if the server fails and sensitive corporate data is released.

And tales of fraud are legion. According to the Federal Trade Commission, online auctions result in more consumer complaints than any other Internet practice.

"Fraud is our main concern. With most of these auctions, there's just no way of knowing what you're getting and who you're dealing with," says Dave Pavone, IT manager at Calence Inc., a Tempe, Ariz., network management company that has considered but

rejected auctions as a purchasing channel.

Moreover, corporate purchasers and IT executives generally prefer to build steady, long-term relationships with vendors. In the enterprise, many say, service, support and predictability are more important than price alone.

And yet corporations are buying an awful lot of industrial-strength IT gear via online auctions. Todd Lutwak, director of San Jose-based eBay Inc.'s Technology Marketplace, says that in fiscal 2001, $1.8 billion worth of equipment was sold in that division (which includes consumer electronics and computers in addition to enterprise IT equipment). This fiscal year, the Technology Marketplace is projecting $2.6 billion in sales.

"Sellers come to eBay because that's where the buyers are," he says. "We've got 49.7 million registered users." Lutwak acknowledges, however, that the vast majority of those users are consumers and that it's difficult to know what percentage of that projected $2.6 billion will come from sales of true enterprise IT equipment.

BARGAIN BASEMENT

Vendors aren't happy with the secondary market, where prices can range from 20% to 30% of manufacturers' suggested prices for new equipment.

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For Commodity Products

Eric Austvold, an analyst at AMR Research Inc. in Boston, says auctions can provide a natural match between sellers' and buyers' best interests. In general, both parties use online auctions as a channel for commodity products such as file servers and routers.

Corporate purchasing departments tend to have a set of well-defined criteria for such equipment — a list of approved vendors, performance characteristics, whether it's OK to buy used equipment and so on. Because it's usually easy to meet these requirements for commodity products, the decision boils down to price — and online auctions can look very attractive in that department.

Increasingly, vendors are also online auction fans. In fact, IBM, Dell Computer Corp. and Sun Microsystems Inc., among others, have created their own eBay sites. From their point of view, auctions are a great way to move commodity products, clear out inventory and extend the life of "products that have lost their luster," Austvold says. "You can still only get the latest stuff from a salesperson."

"We call that 'puking' a product," says Mike Sheldon, vice president of operations at Network Hardware Resale Inc., a Santa Barbara, Calif.-based company that resells used networking hardware. "As in, when manufacturers have a product line that's about to be superseded, they mark it down and 'puke it' on eBay."

Of course, commodity products are only part of the IT purchasing picture. "We have so much hardware that's custom-made, and you'll never get that stuff at an auction," says Henri Asseily, chief technology officer at BizRate.com, a Marina Del Rey, Calif.-based comparison-shopping site.

Nevertheless, Asseily says BizRate recently purchased a Sun Enterprise 420R workgroup server through an online auction, saved 50% and was happy with the transaction. "When you buy something like that, it's like buying a shirt," he says. "You know exactly what you're getting."

Doug Eney, vice president of IT at Miami-based Carnival Corp., says the $4.5 billion cruise company has purchased both new and refurbished Sun servers on eBay. "It's saved us big bucks," he says, declining to be more specific. "It's cheaper for us, and we don't have time to go to lunch with vendors every day." Other IT managers agree that saving time and avoiding sales representatives are two added attractions of online auctions.

While plenty of IT executives appear willing to buy hardware through online auctions, that doesn't mean they'll blindly purchase an item from just anybody. "We have to know the vendor, and we've got to [be able to get] services and a warranty," Eney says. For him, vendors' eBay auction sites provide the best of both worlds: bargain prices and manufacturers' backing.

Sticking Point

Trustworthiness is a major sticking point for many enterprises. "With mission-critical hardware, there's still a reluctance to use auctions," says Zeus Kerravala, an analyst at The Yankee Group in Boston. "You don't know what state it's in when you buy it." Calence's Pavone adds, "If you buy at auction, you really don't have anyone to lean on if the product fails."

Auction sites are fully aware of this trust issue and have tried to address it in myriad ways, but there's only so much they can do. "EBay's role is to match buyers and sellers, but ultimately, people are buying from someone else — eBay is enabling that commerce," says Lutwak.

IBM says that about 80% of the sales it makes through its eBay site are to individuals and small businesses. "Enterprises are already getting good prices through volume discounts, and they have needs that are hard to meet through auctions," says IBM spokesman Michael Rowinski. "If you want 1,000 ThinkPads, and you want them all configured a certain way, chances are you're not going to find that on eBay." (Lutwak responds that eBay has created programs that make it easier to buy large quantities.)

Even if you don't purchase hardware at auction sites, online auctions can be a valuable arrow in your quiver: Some IT managers find rock-bottom prices at auctions, then use the information to wrangle deeper volume discounts from vendors.

"We find that if we really leverage our suppliers, we can get the best rates available through our volume discount," says Pavone. "You've always got to be working to get the best price." ◗

Ulfelder is a freelance writer in Southboro, Mass. Contact him at sulfelder@yahoo.com.

To Bid or Not to Bid?

Are you thinking about testing the online auction waters? Here are some tips:

AUCTIONS CAN WORK WHEN . . .

- You're buying familiar commodity hardware such as routers and file servers.
- The seller is a vendor you're familiar with.
- You're shopping for a product line that will soon be replaced, but you're certain the model you're buying will serve your needs.
- You can get a warranty and service deal that you're comfortable with.

AUCTIONS CAN HURT YOU IF . . .

- The vendor won't service hardware purchased at auction.
- The hardware is mission-critical and fails (check with your company's risk-management executive first).
- The equipment needs extensive refurbishing or reconfiguration.

eals!

CASE STUDY

Speedy Cures

Covance banks on portal technology to knock precious weeks off the race to bring new drugs to market. By Thomas Hoffman

GIORGIO PALMIRANO

THE TIME AND MONEY involved in bringing a new drug to market is staggering — it can take 12 to 15 years and cost $750 million to $850 million, according to industry experts. So it shouldn't come as a surprise that many pharmaceutical and biotechnology companies are looking to use IT to streamline workflows, make clinical information more accessible and otherwise help reduce time to market.

The Boston Consulting Group estimates that the effective use of IT could help industry players to shave $100 million to $200 million from their development costs. The "big lever" for the business side is using IT to improve the decision-making process among executives during the crucial clinical-trial stages of drug development, says Charles-Andre Brouwers, a Boston Consulting Group vice president in New York.

That's precisely what Covance Inc. in Princeton, N.J., is trying to accomplish. The $800 million company, which develops and conducts trials of potential pharmaceuticals for top drug companies worldwide, is about to launch an enterprise portal that aims to streamline data review and data management.

The system is undergoing validation testing and is scheduled to go live in the first quarter of 2003. It's expected to pare at least two weeks from each of the 200 or so clinical trials that Covance has in the pipeline at any given time, says Mark Bradshaw, global vice president of biometrics, data management and clinical IT. The portal enables everyone who's working on a clinical drug trial to have access to the same updated information and forecasts and in turn provides for many opportunities to reduce time and costs during the process.

Two weeks might not sound like much for a 12-to-15-year project, but consider this: Every extra day it takes to bring a drug to market can cost a pharmaceutical company up to $3 million in projected sales. That would be a healthy return from an enterprise portal investment whose cost company officials placed in the low seven figures.

Construction of the new clinical portal started late in the process, in July 2002, because Covance's CEO, chief financial officer and top business leaders requested that a previous deal with one of the key vendors, Sybase Inc., be restructured as a fixed-bid contract. That way, each phase of the project would have to be delivered on time and on budget before senior management would approve the next phase of the project, says Richard Enz, a senior director at Covance who ran the portal project. "We had a plan worked out, and then we had to renegotiate it," says Enz. "But we're all very happy with the way the whole project was managed on both sides."

The portal investment includes three sets of hardware, each consisting of three Sun Microsystems Inc. servers running the Solaris operating system: one set for the development of the portal, one for validation testing and one set for production. Software licensing and professional services fees are also included.

Prior to choosing the Sybase portal, Covance in January 2001 evaluated creating a data warehouse that could be used by statisticians and project managers to retain and analyze gobs of clinical data. But the company found that it would be difficult to synchronize data from the company's eight operating units and bring it into a single data warehouse, says Enz. "The smarter approach," he says, "was to bring in a front-end system" that could pull the disparate data together and make it accessible via the Web.

After evaluating tools from vendors such as PeopleSoft Inc. and Plumtree Software Inc., Covance decided that Dublin, Calif.-based Sybase offered the best set of integration tools, says Enz. Other than the two Covance staffers who worked on the project — Enz and a project manager — the remaining development and implementation work was handed off to Sybase. "We really didn't have the technical skills to do this kind of work," says Enz.

The biggest time savings should occur during Phase 3 of a clinical drug trial, which is when a pharmaceutical company seeks preapproval from the U.S. Food and Drug Adminstration to begin marketing a drug. Phase 3, which typically lasts two to four years but can continue for as long as seven years, consists of setting up dozens of sites, which are used by physicians with patients who volunteer to test the effects of a drug before it has been approved by the FDA.

During these trials, Covance and its pharmaceutical customers collect and evaluate information on how patients at different sites are reacting to a drug. Using the portal to gather, collate and analyze the data, project managers should be able to determine whether a change in the frequency or size of a drug's dosage is needed. They will be able to gather and analyze this data faster than when they pored over paper-based forms and entered data into spreadsheets.

Looking ahead, Covance is hoping to achieve additional time savings, in part by exploring the possibility of providing physicians involved in the clinical trials with external connections to the portals. ▶

BRIEFS

Meta Expects 6% Growth in CRM

Meta Group Inc. last week released its latest evaluation of the top 10 vendors in the customer relationship management (CRM) market. Although Meta expects CRM services to grow 5% to 6% in 2003, it found the following:

- Fewer clients invested in enterprisewide CRM endeavors from mid-2001 to late 2002. Instead, they are proceeding with smaller, shorter and more tactical projects, and chaining these projects across time.
- Studies show that clients have a low level of confidence with regard to CRM service providers, based largely on early CRM stumbles with companywide projects.
- More service providers are refining their CRM messages, taking into consideration individual clients' maturity levels, short-term needs and long-term visions.
- CRM leadership requires an ability to move beyond value measurement and into long-term value capture for clients, while still adhering to time and cost limitations.

RadioShack Promotes Cook

RadioShack Corp. in Fort Worth, Texas, recently announced that Ron Cook had been promoted to vice president of technology strategy and operations. Cook will be responsible for managing the technical strategy and architecture at RadioShack Technology Services, including ensuring that the company's technical platforms and systems can support business needs, and for maintaining the network that connects RadioShack's corporate offices to its stores. Cook had been senior director of strategic architecture and technical operations at RadioShack. He joined the company in 1996.

PEER TO PEERS/STEVE CRUTCHLEY

Making Security Pay

NO COMPANY can expect to stay in business unless it sheds unnecessary costs while also preserving value-added services. This is a major problem for security, since it's typically seen as a "grudge spend" that doesn't actually generate revenue or create immediate ROI. Still, all businesses must take precautions to protect their intellectual property, ranging from customer information and research and development data to employees' confidential records. Failure to do so can mean the loss of millions of dollars in "cleanups," shareholder distrust in the integrity of corporate information and lawsuits. In the end, it could be a lot riskier and more expensive to cut corners on security spending.

In the U.K., documents published by the Institute of Chartered Accountants and recently mandated into law state that business leaders must minimize risk by establishing appropriate data security and intellectual-property controls. For public companies, these include an annual review of security controls and regular assessments of risks.

These controls help protect shareholders, board members and senior executives, such as CIOs, who will be held responsible for noncompliance. In the U.S., CEOs and chief financial officers are now required, thanks to this summer's passage of the Sarbanes-Oxley Act, to sign documents attesting to the veracity of their financial data.

The lesson for all companies is that now is the time to understand what measures are required to protect your organizational assets and how to implement them.

Security is a process and requires a change in corporate thinking. IT and other managers need to create processes to combat security risks. One way to do this is for managers to educate employees through security training and awareness programs that are held quarterly with the whole staff. Some security measures in which employees can participate include changing their network passwords and reading alerts sent to them when new viruses are on the Internet.

Making security pay off is also a matter of understanding what needs to be protected. This involves identifying potential risk exposures.

But the biggest challenge of all is knowing what needs to be managed. It's not as easy as it sounds. Many companies don't even have a handle on what they own because they have grown too fast and haven't been able to keep their assets list up to date. Knowing what needs to be protected helps companies understand their risk profile so they can better measure returns on security investments.

The best way to do this is to conduct periodic audits of organizational assets and then implement technology and processes that protect those assets. Typically, this will include regular vulnerability assessments in order to understand who has access to what company information and to ensure that security policy is in line with corporate governance and that business regulatory controls are compliant.

After identifying what's at risk, the next challenge is quantifying it. After that, you can figure out how to address it and how to sell that investment to top executives. Here are some initial questions to consider when quantifying risk:

- **Can we effectively measure the cost of incidents?** Indications are that companies still view security as a grudge spend. According to U.S. cybersecurity czar Richard Clarke, the private sector spends only 0.0025% of the total IT budget on security. The Code Red virus alone cost U.S. businesses $2.6 billion in cleanup costs.
- **What is the impact on our business information?** Understanding what to protect will allow us to ensure that we are providing the correct level of security.

What are our main threats? A 2002 FBI study reported that 78% of surveyed companies detected employee abuse of Internet privileges, such as downloading pornography or pirated software. These issues can lead to virus attacks and are potential door-openers into systems.

- **What's the probability of incidents?** There are more than 64,000 viruses in the wild. According to the CERT Coordination Center, only six incidents were reported in 1988 vs. more than 73,000 in just the first three quarters of 2002.
- **What's the probability of major incidents?** It's not "if it happens" but "when it happens." A recent Ernst & Young global security report indicated that more than 75% of the organizations surveyed experienced unexpected unavailability in their critical systems.

Can our risk be reduced? Yes, if management invests in the process of identifying potential risk points, adequately training and informing staff of security threats and processes, performing regular audits on assets and dedicating a significant portion of the IT budget to security measures.

The bottom line is that as management, we can't afford not to make security pay off.

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Steve Crutchley is chief security officer at 4FrontSecurity Inc., an information security infrastructure and services firm in Reston, Va. He is currently conducting baseline reviews for companies with respect to compliance to ISO 17799 security standards.

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SOFTWARE CONSULTANT

Dsgn & dvlp bus. sys. w/Lotus Domino for both web browsers & Lotus Notes clients using Lotus Script & Formula Language; analyze user reqmts in order to perform customized dvlpmnt & modification activities; maintain existing Lotus Notes-based databases & applns at client sites; dvlp & enhance new & existing Lotus Notes & Lotus Domino applns to meet client reqmts; perform web dvlpmnt using Java Script, HTML & XML as needed. Bachelor's (or equiv.) in Comp Sci, Math, Bus. or Engrng + 2 yrs exp. in position offered or as a Programmer Analyst, Software Engnr or Sys. Analyst reqd. Exp. must include: (a) Domino & Windows 2000 or Windows NT or AS-400 or AIX operating sys.; (b) Lotus Script & Formula Language programming languages; & (c) Java Script, HTML or XML web dvlpmnt languages. High mobility preferred. 40 hrs/wk, OT as reqd. & am - 5 pm, $51,000/yr. Qualified applicants submit resume to Manager, Washington County Team PA CareerLink, Millcraft Center, Suite 150LL, 90 West Chestnut Street, Washington, PA 15301-4517. Please reference Job Order No. 293335.

Project Manager - Arel Communications is the world's leading provider of software infrastructure for e-learning and Enterprise Communication Systems. The company seeks qualified candidates for the position of Project Manager in its Atlanta, GA office to manage development, design, maintenance and integration of ECS Systems. Will coordinate product planning, rollout and support. Will interface with client managers and technical staff, as well as product development groups in U.S. and Israel. Requires B.A./B.S. in Information Systems, Business or Economics, and prior experience in communications software development. Also requires expertise in IP networking and Internet/Intranet programming. Submit resume by fax or e-mail to (770) 396-1755 or tfredrich@arel.net. EOE.

SBI is looking for the following positions for its offices in Houston, TX; San Francisco, CA; Warren, NJ; Salt Lake City, UT and Portland, OR: Programmer Analysts, Technical Architects, Technical Consultants, Business Strategists, Systems Analysts, Software Engineers, Art Director, resumes by email or fax only to HR, SBI, 2825 East Cottonwood Parkway, Suite 480, Salt Lake City, UT 84121. careers@sbrandcompany.com. Fax (801) 733-3201.

Controller
Lumenis, a leader in laser and light-based technologies for medical and aesthetic applications, seeks a Controller for its U.S. Headquarters in Santa Clara, CA. Review and analyze financial reports and budgets. Direct all aspects of accounting operations and preparation of annual financial forecasts. Requires B.A. in Accounting and prior experience in accounting/finance. Also requires CPA certification in U.S. or Israel; expertise in development of accounting systems; and expertise in U.S. GAAP. Apply online at www.lumenis.com. EOE.

Senior Software Engineer responsible for research, design and developing computer software systems applying principles and techniques of computer science, engineering and mathematical analysis. Will conceptualize, design and construct a framework for business application software that will allow for organization of large amounts of business information and its interactive presentation via multimedia techniques using various platforms including CORBA/J2EE. Design software systems using application development software and technology such as C++, Java and object oriented design. Must have 5 yrs of exp. in job offered. Salary Competitive. Send resumes to: Wendy Davidson, Mentsys, Inc. 1375 Remington Rd. Ste. A, Schaumburg, IL 60173.

Software Engineer Must have Bachelor's in Computer Science/related field, or its functional equivalent in training, education, and exp. Design, build, and maintain company software systems for internal and external client use. Use knowledge of software system architectures and project lifecycles to develop, document, and test codes. 40 hrs/wk, 9-6. Competitive salary. Send resume to Primetech Systems, Inc., 1010 Green Tree Rd., Pittsburgh, PA 15220.

Minisoftech has openings for system/programmer analysts or software/project engineers. We are small but relatively stable. Applicants must have BS plus experience in IT field. Skills in Java, JDBC, HTML preferred. Please send resumes to hrd@minisoftech.com. EOE.

ShellSoft has several openings for computer professionals. Attractive wage plus full benefit pkg. Skills in Oracle, SAP, Java, Unix, SQL, VB are plus. Qualified applicants must have BS. Traveling as required for some positions. Send resumes to jobs@shellsoftinc.com. EOE.

Optimum Technologies seeks Software Engineers to design & develop complex software applns and systems using UNIX, Windows, C++, VC++, VB, PL/SQL, Unix Scripting (and, awk, grep) Linux Scripting, SS7, Oracle, SQL Server and related tools. MS or equiv in Comp Sci, Electronics or Communications Engg & 3 yrs exper required. Will consider applicants with BS & 5 yrs exper. Job in Woodridge, IL & other locations. Apply to HR, Optimum Technologies, 1230 Golfview Dr., Woodridge, IL 60517. Fax 630 985-7825.

Software Engineer
Must have a Bachelor's Degree in Computer Science. Design, build and maintain company software systems for Printers Manufacturer, using knowledge of C and C++ in MFC environment. Must also possess knowledge of OOD, assembler programming, Java and Java Scripting. SQL is a plus. 40 hrs/wk, 9-5. Competitive salary. Send resume to Prism, Inc., 1950 Evergreen Pkwy., Ste 500, Duluth, GA 30096.

Systems Analyst responsible for design and development of software applications for the company and its clients. Help clients in state of art Internet and client server technologies under Windows NT using VB Script, COM, ActiveX and Java Script. Responsible for writing code in Visual Basic and Java using Object Oriented Programming Techniques. Use Object linking and embedding technologies and ActiveX to make the applications reusable. Must have a Bachelor's degree in CS or foreign degree equivalent. Must have 2 yrs of exp. in job offered. Salary: Competitive. Send resume to: Raj Shekaran Software Research Assoc. 70 Mansell Ct. Ste. 100, Roswell, GA 30076.

ALGORITHM DEVELOPMENT ENG -- Designs and develops pattern recognition algorithms for medical applications. Master's degree in Elec./Computer Eng. Will pay prevailing wage. Send resume to Ziling Huo, Beckman Coulter, Inc. 11800 SW 147th Ave., Miami, FL 33196 or fax to (305)-380-3647.

Systems Analyst-Oracle needed to analyze, design/develop, document, test and implement systems and programs. Competitive salary and benefits. Fax 860-768-2425, e-mail Kieren.Portley@espn.com or send your resume, to ESPN, HR Dept-KP, ESPN Plaza, Bristol, CT 06010. EOE/AA/M/F/D/V

Network Analyst needed in New York City to support automation servers and infrastructure, build severs, administer MS Exchange, provide OS-level diagnostics, and resolve network connectivity issues. Competitive salary and benefits. Fax 860-766-2425, e-mail Kieren.Portley@espn.com or send your resume, to ESPN, HR Dept-KP, ESPN Plaza, Bristol, CT 06010. EOE/AA/M/F/D/V

Programmer/Analyst, 40hr/wk, 8am-5pm, $57,449/yr. Min. Req.-BS in Computer Science or related. Design database, website application, business systems design, development and support and application integration; various software programming, analysis and networking using C++, Visual Basic, Unix, Oracle, Fortran and SQL; develop project using Functional Analyst skills, implement object oriented design and GUI developers. 6 month above exp. or in related occupation. Software Engineer/Research Assistant. "Employer Paid Ad". Contact: MDCH/ESA, P.O. Box 11170, Detroit, MI 48211-1170. Ref. No. #202619.

Seeking qualified applicants for the following positions in Memphis/Collierville, TN: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* in computer science, MIS or related field plus 5 years of experience in systems/applications development in a mainframe environment. Experience with airline freight rating systems/applications, COBOL and IMS DB/DC also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to SBI, George FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

Programmer Analyst needed to develop, test and implement systems for on-air product. Competitive salary and benefits. Fax 860-766-2425, e-mail Kieren.Portley@espn.com or send your resume, to ESPN, HR Dept-KP, ESPN Plaza, Bristol, CT 06010. EOE/AA/M/F/D/V

Web Designer-needed to maintain graphic quality of web sites and manage the creation and development of support graphics, redesign and branding as well as perform graphic production for material, including art and copy layouts. Competitive salary and benefits. Fax 860-766-2425, e-mail Kieren.Portley@espn.com or send your resume, to ESPN, HR Dept-KP, ESPN Plaza, Bristol, CT 06010. EOE/AA/M/F/D/V

Senior Systems Analyst-Oracle needed to provide project leadership and analyze complex business processes, define business requirements/tech specs, and design, develop test and implement new/enhanced programs and systems. Competitive salary and benefits. Fax 860-766-2425, e-mail Kieren.Portley@espn.com or send your resume to ESPN, HR Dept-KP, ESPN Plaza, Bristol, CT 06010. EOE/AA/M/F/D/V

Computer Programmer Analyst

Full time position to work as Computer Programmer Analyst, needs knowledge of Mainframe application using CICS, DB2, COBOL, COGEN, JCL, VSAM, EASYTRIEVE, ADW-KEY 4.1, SQL, C, JAVA, HTML, JAVA SCRIPT, XML, PERL, CA7, INSYNC, FILE-AID. Requires Bachelor's degree in Technology or equivalent and 2 years of experience in the job offered. Send resume to Pyramid Consulting Inc, 8665 Providence Drive, Noblesville, IN 46060.

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Programmer/Analysts: Design, develop, validate and implement specialized Laboratory & Pharma related Management Information Systems to LIMS Lab-Manager environment (FDA regulated environment) conforming to cGXPs and 21 CFR Part 11 pertaining to electronic records and signatures. Prevailing wage/benefits. HR, enGenius Consulting Group, Inc., 3100 Breckenridge Blvd., Ste 100, Duluth, GA 30096. EOE.

Assistant Lead Systems Programmer w/ BS in Comp Science and 3 years exp. wanted by insurance company in Galveston, TX. Respond to: HR Dept., American National Insurance Company, One Moody Plaza, Galveston, TX 77550.

Senior Engineers needed in Austin, Texas to supervise, research design, develop, test automation software for fiber optics communications, manufacturing applications. Design computer user interface to deploy applications for use in Latin America. Use industrial computer two instrument architecture and GPIB. Use PID and computer vision code for industrial automation. Must have a Master's in Electrical or Control or Electronic Eng and 1 yr exp. in job offered performing duties listed above. E-mail resumes to ruth.hale@vi-tech.com. Put code SrE on the resume.

Software Engineer
Formtek, Inc. seeks applicants for a Software Engineer position at its Walnut Creek, California, location to develop, test and support enterprise content management applications utilizing Oracle database technology, Unix and Microsoft operating systems, programming with software development languages including C++ and JAVA. Tasks include development of client-server and web-based applications for content management. Require BS in Computer Science and a minimum of two (2) years directly related experience. Resume to: HR, 1777 Oakland Blvd. Suite 300, Walnut Creek, CA 94596.

Senior Group Leader needed in Austin, Texas to lead design, development of automation software for fiber optics communications applications, use test and measurement software for inspection of communication equipment, use open database connectivity, object oriented analysis and design, and Visual C++, oversee design of computer user interface to deploy applications within Latin America. Must have a Bachelor's in Electrical or Electronic Systems Eng and 2 yrs exp. in job offered performing duties listed above. E-mail resumes to ruth.hale@vi-tech.com. Put code SGL on the resume.

Programmer Analyst
Design, develop and maintain query/report applications and GUI based applications for order entry and manufacturing systems using VB, ODBC and SQL on relational dbs and Image/SQL db running on Unix/Win-dows NT; design web-based applications using ASP/HTML and COM objects to search and retrieve engineering drawings created on CAD, and upgrade-maintain company web site using HTML/Java Scripts; integrate the bar code enabled third party shipping systems to order-entry system.

Requires a BS in Computer Science, Math or Engineering plus 6 months experience in a related field. Full time with competitive salary.

Send resume to HR Department, Hubbell Electrical Products, P.O. Box 5329, St. Louis, MO 63115. No calls/EOE.

Cap Gemini Ernst & Young U.S. LLC is currently seeking individuals to fill Consultant and Manager positions to multiple locations nationwide and in California, including the Orange/Los Angeles counties area, the San Jose area, and the San Francisco Bay Area. Please apply online at http://www.us.cgey.com/careers/eRecruit.asp using Job Ref#1014 for Consultant or #1015 for Manager. CGEY is an Equal Opportunity and Affirmative Action employer. All qualified applicants will be considered for employment without regard to race, religion, color, national origin, age, sex, marital status, sexual orientation, disability or status as a Vietnam-era, special disabled and other covered veteran status.

SOFTWARE DEVELOPER, SENIOR-TMA Systems LLC has an opening for a Senior Software Developer at our Tulsa, Oklahoma location to design and develop facilities management software applications according to customer requirements; evaluate requests for new or modified computer programs, and conduct extensive testing of newly designed applications. Position requires a Bachelor's degree in Computer Science, Engineering, or a related field and two years of experience working in the position offered or as Software Developer-Facilities management Software. Please fax your resume to 918-858-6855 or e-mail your resume as an attachment to: HumanResources@tmasystems.com

F/T Computer Systems Administrator. To manage information system activities and design POS systems using Visual Basic, Microsoft SQL Server 2000 & 7.0, MS FrontPage, Access 2000, and Vb Script. Must have 6 yrs. of exp. Must have Bachelor's degree or foreign degree equivalent in Software Engineering. Course work must have included Assembly and Machine Language, Computer Architecture & Microprocessor courses. Salary Competitive. Send resume to: T. Ford, Le Petit Bistro, Inc., 5600 Roswell Rd., East Bldg., Ste 250, Atlanta, GA 30342. No Calls Please.

2 SOFTWARE ENGINEER (1) Reqs BS-CS/CE w/ 2 yrs Exp in job offered or as Software Engineer Knowledge of IDEN Layer 2/ 3, MM, IPTE, VoIP, TTCN, C required. Knowledge of Linux / Symbian, Win CE, GSM, SIP desired (2) Reqs BS-CS/CE w/ 2 yrs Exp in job offered or as Software Engineer Comprehensive Knowledge of IDEN Technology and Phone Configurations, IPTI, ISDS, XFlash, WebJAL, RSS, DDTS, Clear Case, QA process including test plan analysis, test case development, execution, defect reporting test documentation C, VB, Oracle and Rational suite required. Knowledge Unix, Windows environments, Configuration Management Tools (preferably Clear Quest) AETG, J2ME, E-Commerce, middle-ware technologies desired. Mail resumes: Signature Consultants, 2200 W Commercial Blvd. #207 Ft. Laud., FL 33309. Attn:Marilena

QUALITY ASSURANCE ENGINEER Responsible for configuring and testing e-Commerce based document archiving tool Retrieval, document, document mining and report analysis software applications for UNIX and NT platforms. Will troubleshoot and analyze the software with various version of SQL Server. Will provide 3rd level support to Technical Support Team and Engineers. Will create, configure Web Servers and write korn shell scripts to automate software testing. Responsible for SQL Server database administration in QA/QC lab. Requires B.S in Electronic Engineering or Computer Science and 1 year technical support experience. Demonstrated knowledge of SQL Server, Sun Solaris, Windows NT, Internet Information Server, Novell Netware, and TCP/IP. Demonstrated ability in scripting in C. 40 hrs/wk. (9:00 a.m. to 5:00 p.m.). $64,000/yr. Send two (2) resumes/letters of application to: HR, INSO, Two Westborough Business Park, Westborough, MA 01581.

Computer Systems Analyst Atlanta. Use knowledge of systems software, hardware & operations of construction & engineering companies to analyze, develop, implement, modify, maintain, document, support & test solutions for engineer-/construction clients. Develop integrated production scheduling, inventory control, cost analysis & project management subsystems. Train users. Requ: Bachelors (or equiv in education or combination of experience & education) in Computer Info/Management Info Systems or related +2 yrs in job or 2 yrs as Consultant-project and/or systems consulting. Send resume to: HR, DataLogistics, 1605 Hembree Rd., Ste C, Alpharetta, GA 30004.

Seeking qualified applicants for the following positions in Orlando, FL: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* in computer science, MIS, engineering, math or related field plus 5 years of experience in systems/applications development. Experience with one or more of the following required for these positions: Shell, C, Unix (Sun Solaris), C++, RDBMS. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibi George, FedEx Corporate Services, 1990 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V

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Systems Analyst
Synapse Group, Inc., a leading computerized magazine marketing company, is looking to hire a qualified SYSTEMS ANALYST to plan, develop, test, document and update computer programs to increase operating efficiency; to enter program codes into computer systems; to review quality of GUI applications, database table verifications and reporting structures, and to monitor performance and provide technical assistance to program users. Qualified applicants are required to possess at least a Bachelors degree in Computer Science, Information Systems, or it's equivalent. Sound knowledge to internet applications, HTML, SQL, JAVA and ORACLE preferred. We offer a competitive compensation/benefit package two an environment where achievements are recognized and professional growth is encouraged. Qualified applicants are encouraged to mail resumes to HR Department, Synapse Group Inc., Four High Ridge Park, Stamford, CT 06905.

Developers II needed. Seeking qual. cand. Possessing BS or equiv. and/or rel. work exp. Part of the req. rel. exp. must include 2 yrs working w/Oracle (Syns. of Oracle preferred). Duties include: Data modeling & analysis, Develop shell scripts, Interface b/t mainframe systems & Oracle. Work w/Java. Oracle Discoverer & Oracle RDBMS. Mail res., ref. & Sal. Req. to Mutual of Enumclaw, Attn: Michele Mead, Job ref: XJ6, 1460 Wells St., Enumclaw, WA 98022.

Require experience to design and development of applications using C++, UML, Oracle, DB2, J2EE, Weblogic on Unix and Windows platforms and must include technical leadership. Relocation within USA possible. Attractive compensation package. Send resume to Suresh Thankavel, Wisdom Infotech Ltd., 3540, South Rivershire Dr., Suite # 7, Greenfield, WI 53228.

Developers-Mainframes
Design, develop, analyze and maintain computer applications programs of low complexity for mainframe applications. Business application development, maintenance and support in both centralized and distributed data management systems. Work with senior and lead developer teams in systems development, documentation, troubleshooting and enhancing applications programs; researching and recommending software and hardware solutions. Duties involve: programming to COBOL, COBOL II, Easytrieve, DB2 and CICS and working with mainframe tools TSO/ISPF, MVS, two JCL on UNIX IBM Mainframe systems. Min Reqts: BA/BS (or foreign equivalent) in Computer Science, Electrical Engineering, Mathematics, or related AND two (2) years of experience in job offered or the related occupation as computer programmer, system analyst, engineer or related. Must possess working knowledge two experience with: (1) Cobol and Easytrieve computer languages (2) two of following: DB2, MVS, JCL, TSO, ISPF, and (3) working in distributed data mainframe management systems. Offered salary is $54,900/year, full-time (40 hours/week) benefits. Multiple Openings. Please send resume, to duplicate to Case No. 200114225, Labor Exchange Office, 19 Stanford Street, 1st Floor, Boston, MA 02114.

Programmer Analyst - Plan, develop, test, and document Oracle Applications for clients; analyze operational and performance requirements, write codes; bridge functionality gaps; design screen, report, and forms; solve technical problems. Work on various Oracle Applications, such as Financials, HRMS, General Ledger, and Accounts Payable. Use Oracle Designer, Kintana, Oracle Discoverer, MS Word, MS Excel, Noetix, Oracle Developer, PL/SQL, SQL, Unix, Windows NT, Triad, and Oracle database. Reqs: Bachelor's degree or its foreign equivalent degree in Computer Science or Computer Engineering and 2-year experience to the job offered or to a related occupation as a Programmer Analyst, Oracle Consultant, Principal Consultant, Application Developer, or System Analyst. Will accept a Bachelor's degree in Engineering or its foreign equivalent two 4-year work experience in the job offered or to a related occupation in two of the requirement of a Bachelor's degree and 2-year experience. Must have 1-year experience with all must two Oracle applications and using PL/SQL, Toad, and Unix. $66,826.78/year, 40 hrs/wk, 8a-5p, M-F. Job location: various unanticipated locations throughout the U.S. Mail resume to Site Administrator, Greene County Team PA CareerLink, 4 West High Street, Waynesburg, PA 15370-1324 and refer to reference number WEB 293811.

Jr Programmer. Asst. to designing, developing & admin info ntwk. sys. & appl. including Local Area Networks, website hosting on Linux, Windows 2000 & Windows NT Platform. Prep. specifications to design, code test & debug prog. Req: BS in comp Sci. or info Sys. 40 hr/wk. Job/Interview Site: San Diego, CA. Send resume to: Nextwerk Development Inc., 9225 Dowdy Dr., #218, San Diego, CA 92126.

Managing Network Engineer will provide technical support of current two prospective customers through interaction with customers, support engineers, marketing and development engineers, and other equipment vendors. Specifically, will oversee laboratory two field two trial preparation, remote diagnosis, problem re-creation, information research, two customer site visits. Will be responsible for resolving and/or managing the resolution of escalated customer issues by providing updates and utilizing the customer service lab to recreate problems in order to resolve those issues. Will also participate in new production introduction as part of the company's new product development team. Specific tasks for the role include identifying support requirements, departmental needs, customer upgrade readiness, local and/or remote support of new product rollout, internal training, two product testing. Will also develop upgrade plans for assigned accounts. Additionally, will support post sales activities (problem resolution, installations, upgrades, new product introductions, account reviews, etc.) as well as maintain a call tracking database. Requires Bachelor's Degree in Computer Science, Engineering, Mathematics, Physics, Telecommunications or Communications and four (4) years of experience to Job Offered or four (4) years of experience in network engineering to a telecommunication environment. Candidate must also possess demonstrated expertise designing two configuring carrier networks. Salary $109,000/yr. Mon-Fri 9:00AM - 5:00PM. Submit two (2) copies of resume to Case #200116208, Labor Exchange Office, 19 Stanford Street, 1st Fl., Boston, MA 02114 EOE. applicants must be U.S. workers eligible to accept employment in the United States on a full-time basis.

Technology Officer. Unanticipated client locations in the U.S.A. Analyze design, develop, implement, integrate, manage and execute computer software projects (development of new products and client site installation/implementation), including determination and selection of hardware and software strategies. Review and select USA and overseas partners two alliances to assist in these projects. Execute offshore development and implementation strategies. Req'd Bachelors degree in Comp. Sci., Engg and 8 yrs exp. in the job duties or in Comp. S/W developing, consulting, project mgmnt, or mktg of Comp. H/W-S/W Svcs. Exposure to various UNIX Windows or Client-Server based technologies, exposure to offshore, off-site development/execution of S/W projects. Respond by resume to (Ref #GG8415), NAM Info, Inc., 17 Canterbury Court, Piscataway, NJ 08854. (no phone calls).

Computer Software Engineers needed. Seeking qual. cand. possessing BS or equiv. and/or rel. work exp. 2 yrs of exp. must include working w/VB & Oracle. Duties include: Analyze, develop & implement applications. Code & test applications. Conduct user training & maintenance support. Work with VB, Oracle, Active Reports, and LIMS. Mail res., ref. & Sal. req. to HR Dept. of Paradigm Genetics, Inc., 108 Alexander Dr., P.O. Box 14628, Research Triangle Park, NC 27709-4628.

Business Development Manager

Satyam Computer Systems Ltd seeks qualified candidate for Business Development Manager position based in the Newark, New Jersey area and Dallas, Texas. Incumbent will be responsible for all aspects of account relationship management & sales/business development for company's vertical business industries including organizing, planning, & implementing marketing & sales strategies. Will analyze client requirements advise on IT resource competencies required by clients as well as Software Development Lifecycle (SDLC) map client processes to relevant technologies, promote services through advertisement & business proposals, & will assist in the planning of various project modules such as analyses, design, development, testing, & implementation. Responsibilities for this position include work w/ vertical business industries. Requires 2 years experience in IT consulting or related industry background in advising customers on SDLC experience w/ account relationship management & sales/business development addressing vertical business industries, experience w/ leading technical & functional consulting teams to deliver client projects & a Master's degree in a related field. Position requires travel. For consideration, please send resume & cover letter with Job Code: BDNWNJ1202 to Resumeus@satyam.com

SENIOR SOFTWARE ENGINEER to design, develop, implement and test client/server web-based OLTP applications and Data Warehousing systems using Oracle, Forms, Reports, Discoverer, Designer, Oracle Express, VB, ASP, COM, HTML, XML, Java, J2EE, JSP, EJB, SQL, PL/SQL, SQL*Loader, C and ProC under UNIX operating system. Mentor junior programmers and engineers. Require B.S. degree in Computer Science/Engineering, or a closely related field with five years of progressively responsible experience in the job offered or as a Programmer/Analyst. Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Apply by resume to: Ravi Kandimalla, Everest Computers Inc., 900 Old Roswell Lakes Parkway, Suite 300, Roswell, GA 30076; Attn: Job PK.

PROGRAMMER/ANALYST to analyze, design, develop, implement and support business and financial applications to process online transactions using Cold Fusion, SQL, Access, VB Script, ASP, HTML, XML, Java and JavaScript under Windows 95/98/2000/NT, Linux, SCO UNIX and DOS operating systems. Require Bachelor's degree in Computer Science/Engineering, Business Administration, or a closely related field with two years of experience in the job offered. A Master's with a demonstrated ability to perform the stated duties gained through academic coursework/previous work experience will be accepted in lieu of the Bachelor's and two years of experience. Competitive salary offered. Send resume to Cheri Cannon, Artisan Network, Inc., 1600 Peachtree St., NW, Suite 850, Atlanta, GA 30309; Attn: Job AU. Job located in Houston, TX.

SOFTWARE ENGINEER

Software engineer to design, develop and test computer programs for business applications, analyze software requirements to determine feasibility of design, direct software system testing procedures using expertise in ATG Dynamo 4.5.1, 5.0, 5.1, 5.5 and 5.6, SQL Server, JVisio, Rational Rose, Sun Solaris, Websphere and JavaMail. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer. Knowledge of ATG Dynamo 4.5.1, 5.0, 5.1, 5.5 and 5.6, SQL Server, JVisio, Rational Rose, Sun Solaris, Websphere and JavaMail. Salary: $66,000/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: Site Administrator, Greene County Team PA CareerLink, 4 West High Street, Waynesburg, PA 15370-1324. Job No. WEB292855

SOFTWARE ENGINEER

Software engineer to design, develop and test computer programs for business applications, analyze software requirements to determine feasibility of design, direct software system testing procedures using expertise in Sun Solaris, UNIX Shell Scripting, Perl and Lotus Notes. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer. Knowledge of Sun Solaris, UNIX Shell Scripting, Perl and Lotus Notes. Salary: $66,000/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: Fayette County Team PA CareerLink, Attn: JS Supervisor, 32 Iowa Street, Uniontown, PA 15401-3513. Job No. WEB292850

PROGRAMMER/ANALYST to analyze design, develop and test web-based application software in a client/server environment for the telecommunication industry using object oriented programming techniques, Java, J2EE, .NET, ASP, JavaScript, SQL, C++, XML and UML under Windows NT/2000/XP and HP-UX operating systems. Require B.S. degree to Computer Science/Engineering, or a closely related field with two years of experience in the job offered. Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Apply by resume to: Eduardo Santos, Custom Software Solutions, Inc., 1002 Williamson Lane, Snellville, GA 30078. Attn: Job SV

SOFTWARE ENGINEER

Software engineer to design, develop and two computer programs for business applications, analyze software requirements to determine feasibility of design, direct software system testing procedures using expertise in Java, JavaScript, C++, Oracle, WebLogic, and WebSphere. Requirements: Bachelor's Degree or equivalent in Computer Science or related field and two years experience as a software engineer or computer programmer. Knowledge of Java, JavaScript, C++, Oracle, WebLogic and WebSphere. Salary: $77,000/year. Working Conditions: 8:00 A.M. to 5:00 P.M., 40 hours/week, involves extensive travel and frequent relocation. Apply: Manager, Butler County CareerLink, Pullman Commerce Center, 112 Hollywood Drive, Suite 101, Butler, PA 16001-6899. Job No. WEB292671

Technical Project Managers /Software Engineers Needed. Seeking qual candidates possessing a MS or equiv and/or rel work exp. Duties include design and develop software applications. Exp w/ consulting Fortune 500 clients and handling multi-million dollar projects preferred. Mail res. and ref. to Bright Corner, Inc., P.O. Box 246, 13901 Midway Rd., Dallas, TX 75244-4388. ATTN: HR

PROGRAMMER/ANALYST to analyze, design develop, test, maintain and implement application software using COBOL II, DB2, JCL, CICS, TSO, IMS-DB/DC, SPUFI, CEDF, BMS, C and Oracle on Mainframe, PC and UNIX platforms. Require: Bachelor's degree in Computer Science, an Engineering discipline, or a closely related field with two years of experience in the job offered or as a Programmer. Competitive salary offered. Apply by resume to: Frank Beaman, Global Software Development Services, Inc.,10 South Fifth St., Suite 600, Minneapolis, MN 55402; Attn: Job VA.

PROGRAMMER/ANALYST

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New Telemarketing Rules Will Require IT Changes

Too much 'dead air' may cost a company big fines

BY PATRICK THIBODEAU
WASHINGTON

WHEN a telemarketer calls, there's usually a few seconds of silence from the time you say hello to the beginning of the pitch. That "dead air" isn't just irritating — it may now be illegal, under new telemarketing rules that were announced last week by the U.S. Federal Trade Commission.

The commission detailed plans to create a national do-not-call list that will let people opt out of receiving telemarketing calls, as well as reduce the problem caused by dead air and abandoned calls that ring but aren't completed by the telemarketer.

The silent pause is caused by a type of software, called predictive dialers, used to automate call centers. IT managers are going to have to ensure that this software follows the new FTC rules or risk big fines for their companies.

But the rules will also simplify one aspect of management. With a national list, telemarketers will have one source of do-not-call information instead of having to collect such lists from each of the 28 states that have them. "There will be less potential for mistakes," said Elizabeth Ussher, an analyst at Meta Group Inc.

And mistakes can be costly. The FTC can impose fines of $11,000 per violation if someone on the do-not-call list is called. Moreover, the FTC can penalize companies if more than 3% of calls are abandoned per day, a rule that also imposes a record-keeping requirement on telemarketers.

And if the dead air lasts longer than two seconds, a recorded message must begin stating the seller's name and telephone number.

Predictive dialers improve efficiency by ensuring that agents aren't routed to busy lines or answering machine recordings. Calls are dropped or abandoned when an agent isn't available to take them, according to officials at two predictive dialer makers, Stratasoft Inc. in Houston, and Concerto Software Inc. in Westford, Mass.

Reducing the number of dropped calls means adjusting the predictive dialing software so that it abandons fewer calls, said Fred Cote, an official at Stratasoft. The FTC rule will also force firms that "haphazardly" dial phone numbers to pay attention to the rate of abandoned calls, he said. ▶

Continued from page 1

InfiniBand

server architecture and technology at Dell, said InfiniBand will help zip data between the systems in large server farms and computing clusters. That should translate into faster performance on enterprise resource planning systems and other applications that need to tap into large corporate databases, according to Pike.

Wait and See

But some users and analysts said they're taking a wait-and-see approach for now.

"InfiniBand is a technology that needs to be watched," said Chris Schuttger, an infrastructure architect at TXU Corp. The Dallas-based utility runs about 2,000 servers, ranging from low-end Windows boxes to mainframes. But Schuttger added that he wants to see InfiniBand mature before he will even consider using it. "We don't want to do beta-testing for the vendors," he said.

Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H., said the jury is still out on InfiniBand. Ethernet remains "a magic word" for data center clustering interconnects, Haff said, adding that InfiniBand has the best chance of catching on in large IT facilities, where high I/O speeds are essential.

Many Choices

Hewlett-Packard Co., one of the founders of the Portland, Ore.-based InfiniBand Trade Association along with Dell, IBM, Intel, Sun and Microsoft, didn't take part in last week's briefings. HP is still interested in the technology but views it as one of many choices for connecting systems in data centers, said John Gromola, director of technology strategy for the company's industry-standard server group.

Dell is testing InfiniBand host-channel adapters and switches now and plans to deploy the technology on its next generation of PowerEdge blade servers, Pike said.

Tom Bradicich, chief technology officer for IBM's Windows-based servers, said his company intends to deploy InfiniBand across all its hardware lines. It will also incorporate InfiniBand into host-channel adapters and switches and develop management software that supports the I/O technology, Bradicich said.

Sun plans to develop an InfiniBand-based architecture from the ground up, said Subodh Bapat, chief technologist for Sun's volume systems product division. That will include new system backplanes and changes to the kernel in Sun's Solaris operating system so it can support the higher I/O speeds, Bapat said.

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CHRIS SCHUTTGER INFRASTRUCTURE ARCHITECT, TXU CORP

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New Telemarketing Rules Will Require IT Changes

Too much 'dead air' may cost a company big fines

BY PATRICK THIBODEAU
WASHINGTON

WHEN a telemarketer calls, there's usually a few seconds of silence from the time you say hello to the beginning of the pitch. That "dead air" isn't just irritating — it may now be illegal, under new telemarketing rules that were announced last week by the U.S. Federal Trade Commission.

The commission detailed plans to create a national do-not-call list that will let people opt out of receiving telemarketing calls, as well as reduce the problem caused by dead air and abandoned calls that ring but aren't completed by the telemarketer.

The silent pause is caused by a type of software, called predictive dialers, used to automate call centers. IT managers are going to have to ensure that this software follows the new FTC rules or risk big fines for their companies.

But the rules will also simplify one aspect of management. With a national list, telemarketers will have one source of do-not-call information instead of having to collect such lists from each of the 28 states that have them. "There will be less potential for mistakes," said Elizabeth Ussher, an analyst at Meta Group Inc.

And mistakes can be costly. The FTC can impose fines of $11,000 per violation if someone on the do-not-call list is called. Moreover, the FTC can penalize companies if more than 3% of calls are abandoned per day, a rule that also imposes a record-keeping requirement on telemarketers.

And if the dead air lasts longer than two seconds, a recorded message must begin stating the seller's name and telephone number.

Predictive dialers improve efficiency by ensuring that agents aren't routed to busy lines or answering machine recordings. Calls are dropped or abandoned when an agent isn't available to take them, according to officials at two predictive dialer makers, Stratasoft Inc. in Houston, and Concerto Software Inc. in Westford, Mass.

Reducing the number of dropped calls means adjusting the predictive dialing software so that it abandons fewer calls, said Fred Cote, an official at Stratasoft. The FTC rule will also force firms that "haphazardly" dial phone numbers to pay attention to the rate of abandoned calls, he said. ◗

Continued from page 1

InfiniBand

server architecture and technology at Dell, said InfiniBand will help zip data between the systems in large server farms and computing clusters. That should translate into faster performance on enterprise resource planning systems and other applications that need to tap into large corporate databases, according to Pike.

Wait and See

But some users and analysts said they're taking a wait-and-see approach for now.

"InfiniBand is a technology that needs to be watched," said Chris Schuttger, an infrastructure architect at TXU Corp. The Dallas-based utility runs about 2,000 servers, ranging from low-end Windows boxes to mainframes. But Schuttger added that he wants to see InfiniBand mature before he will even consider using it. "We don't want to do beta-testing for the vendors," he said.

Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H., said the jury is still out on InfiniBand. Ethernet remains "a magic word" for data center clustering interconnects, Haff said, adding that InfiniBand has the best chance of catching on in large IT facilities, where high I/O speeds are essential.

Many Choices

Hewlett-Packard Co., one of the founders of the Portland, Ore.-based InfiniBand Trade Association along with Dell, IBM, Intel, Sun and Microsoft, didn't take part in last week's briefings. HP is still interested in the technology but views it as one of many choices for connecting systems in data centers, said John Gromola, director of technology strategy for the company's industry-standard server group.

Dell is testing InfiniBand host-channel adapters and switches now and plans to deploy the technology on its next generation of PowerEdge blade servers, Pike said.

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CHRIS SCHUTTGER INFRASTRUCTURE ARCHITECT, TXU CORP

IBM Adds 16-CPU Support to Server

Although the joint show of support for InfiniBand proved that vendors in the highly competitive server market can work together, cooperation goes only so far. For example, IBM's shipment of a 16-processor server that runs Windows or Linux met with sharp responses from Hewlett-Packard and Unisys Corp.

The 16-CPU model of IBM's x440 server is based on Intel's Xeon MP microprocessor and starts at $81,332 for a configuration with 8GB of memory and two 18GB disk drives. However, that doesn't include the cost of an operating system for the machine.

IBM introduced the x440 as a four-processor system in March but said it was working to let users connect four of the boxes [QuickLink 28014]. Timothy Dallman, an IBM spokesman, said the resulting 16-CPU machine requires only one-fifth the space of a similar model of Unisys' ES7000 server.

Mark Feverston, vice president of enterprise server marketing at Blue Bell, Pa.-based Unisys, fired back that the ES7000 supports up to 32 processors and uses faster Xeon chips than the x440 does.

Deepak Advani, vice president of xSeries servers at IBM, noted that HP has yet to deliver an eight-way system based on the Xeon chips, let alone a 16-processor machine.

But James Mouton, a vice president at HP, said the company is looking beyond the 32-bit Xeon technology to Intel's 64-bit Itanium 2 processors for use in all future large servers. HP this month demonstrated a prerelease version of its high-end Superdome server equipped with 28 Itanium 2 chips. It said shipments are due to start in the first half of next year [QuickLink 36084].

Chris Schuttger, an infrastructure architect at Dallas-based TXU Corp., said a 16-CPU server with partitioning capabilities could help ease a planned data center consolidation at the utility. Schuttger said he's evaluating the x440, after deciding to pass on the Unisys ES7000.

– Bob Brewin

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FRANK HAYES ■ FRANKLY SPEAKING

Losers & Winners

READY FOR 2003? Sure you are — you've probably been ready to lose 2002 for months. Unfortunately, next year won't be much of a winner for corporate IT shops. With another round of shrinking budgets, an imploding industry and an ongoing shortage of interesting projects, 2003 sounds likely to be a loser too.

Predicting a slow year is easy. But being prepared to find ways to turn it around — *that's* our real challenge.

Next year, the overall U.S. economy will slowly get better — but IT-shop economies will still be losers. IT budgets are now about 5% of revenues, and most companies will be trying to shrink that percentage in 2003. Add to that the political necessity for CIOs to not spend the whole budget — gotta show we're serious about belt-tightening, right? — and IT will be among the last to feel a recovery.

Hiring will be a winning game for IT departments in 2003; it'll still be easier to hire the people you need than at any time in the past decade. Just remember, that won't last. The economy will improve, fewer college kids will head for IT, and the federal government will soak up more of those who do as a large wave of federal IT retirements hits. By 2006, a hiring squeeze will make us feel like losers again.

We'll lose choices with vendors too, as the industry keeps consolidating. But even as IBM swallows PwC Consulting, EDS and the rest of the army-of-consultants crowd will get increasingly desperate for business, as more and more of their customers kill their huge projects — or land in bankruptcy court.

In another kind of court, don't expect any wins from Massachusetts and West Virginia, the two states still trying to squeeze out more limitations on Microsoft. They'll run into a wall at the appeals level, and the U.S. Supreme Court won't take the case. But Judge Colleen Kollar-Kotelly isn't done with Microsoft; complaints about the company's alleged failure to comply with the settlement will keep piling up.

Meanwhile, in Baltimore, expect Judge Frederick Motz to extend Sun Microsystems' winning courtroom record against Microsoft. And since Motz looks interested in a more hands-on approach to controlling monopolies, this one could get messy for Microsoft.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

No big changes among IT industry winners and losers: Dell will keep winning PC market share in 2003, and the new Hewlett-Packard will keep losing it. Microsoft will keep losing money on everything except Windows and Office, but it will win big with those products. Computer Associates has already lost Charles Wang, and SAP will probably lose Hasso Plattner next year (though the company insists he'll be there until 2004). Neither company will look much different as a result of those changes at the top.

New products and technologies? Forget it. Nobody's buying next year unless there's a fire sale — or a fire to put out. Tablet PCs will be the year's biggest loser; after 15 years, they still won't find a compelling mainstream use. But if you're already using tablets, enjoy the price competition as vendors desperately try to move their products.

This season's price war among Palm OS handhelds will win back some market share from Pocket PCs. The losers? Budget-strapped IT shops that have to support calendaring applications as the population of cheap handhelds reaches critical mass.

But we stand to lose a lot more as cheap wireless keeps proliferating. Next year, expect the first hacker experiments in flooding wireless hot spots with outside connections. Watch for those warchalking marks, and lock down those wireless access points.

One last loser: Corporate IT's clout will continue to dip. Hey, if we can't build business, we can't really show IT's value. But it's not permanent, and if we stick to the basics, we might keep 2003 out of the loss column.

And maybe even turn 2004 into a real winner.

SHARK TANK

Motivate This!

Up to his elbows clearing a communications glitch for a customer, this eyeshrivin pilot fish is interrupted by his own CEO's secretary. The boss needs you, she says. Fish waves her off, but two minutes later, she's back: "He wants to see you now." Fish has to leave the customer hanging and reports to the boss, who says, "Get your hammer – I need you to hang this outside the computer room." It's a huge, framed motivational poster. And it works, says fish: "It motivated me to call a recruiter the next week."

Zoned

Caller: "I'm having problems accessing my application."

Tech support pilot fish: Did you load the latest patches? Caller: "What patches? I haven't received any notification." Fish: The e-mail was sent out at 11:35 Central time this morning. Caller: "Oh, that's the problem. I'm in California, so I won't get them for another two hours."

Antediluvian

"This PC was running fine," overseas user tells support pilot fish, "but now it won't boot." Was anything changed or added? fish asks. "No, everything is the same as it was before." Before what? "Before the flood," user says. "But it's all dry now."

Missing the Point

User at a business services company sends a mass e-mailing to 300 clients, but when some bounce because of spam filters, she turns to pilot fish for help. "She wanted us to contact the specialists of the various bounced domains," fish sighs. "To ask them if they'd remove their spam filters so that she could complete her mailing!"

So Is a Million

User having trouble creating a new password: "It's Eight02." Security pilot fish: That's the trouble – our system won't let you create a password that contains two consecutive numbers. Puzzled user: "Twelve is only one number."

I Go 6160

My printer keeps jamming all day long, and I keep clearing the jam, clerk complains. Support pilot fish investigates – and finds the problem. "The clerk was taking the crinkled paper that jammed," fish reports, "and putting it back into the paper tray."

Safety First

Executive secretary at this R&D lab hits support pilot fish regularly for help. "One day, I notice she keeps all her files on her on-screen desktop, which is a cluttered mess," fish says. Curious, he asks her why. "She tells me she keeps them out of the hard drive," fish sighs, "so they'll be safe if her hard drive ever fails."

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Losers & Winners

READY FOR 2003? Sure you are — you've probably been ready to lose 2002 for months. Unfortunately, next year won't be much of a winner for corporate IT shops. With another round of shrinking budgets, an imploding industry and an ongoing shortage of interesting projects, 2003 sounds likely to be a loser too.

Predicting a slow year is easy. But being prepared to find ways to turn it around — *that's* our real challenge.

Next year, the overall U.S. economy will slowly get better — but IT-shop economies will still be losers. IT budgets are now about 5% of revenues, and most companies will be trying to shrink that percentage in 2003. Add to that the political necessity for CIOs to not spend the whole budget — gotta show we're serious about belt-tightening, right? — and IT will be among the last to feel a recovery.

Hiring will be a winning game for IT departments in 2003; it'll still be easier to hire the people you need than at any time in the past decade. Just remember, that won't last. The economy will improve, fewer college kids will head for IT, and the federal government will soak up more of those who do as a large wave of federal IT retirements hits. By 2006, a hiring squeeze will make us feel like losers again.

We'll lose choices with vendors too, as the industry keeps consolidating. But even as IBM swallows PwC Consulting, EDS and the rest of the army-of-consultants crowd will get increasingly desperate for business, as more and more of their customers kill their huge projects — or land in bankruptcy court.

In another kind of court, don't expect any wins from Massachusetts and West Virginia, the two states still trying to squeeze out more limitations on Microsoft. They'll run into a wall at the appeals level, and the U.S. Supreme Court won't take the case. But Judge Colleen Kollar-Kotelly isn't done with Microsoft; complaints about the company's alleged failure to comply with the settlement will keep piling up.

Meanwhile, in Baltimore, expect Judge Frederick Motz to extend Sun Microsystems' winning courtroom record against Microsoft. And since Motz looks interested in a more hands-on approach to controlling monopolies, this one could get messy for Microsoft.

No big changes among IT industry winners and losers: Dell will keep winning PC market share in 2003, and the new Hewlett-Packard will keep losing it. Microsoft will keep losing money on everything except Windows and Office, but it will win big with those products. Computer Associates has already lost Charles Wang, and SAP will probably lose Hasso Plattner next year (though the company insists he'll be there until 2004). Neither company will look much different as a result of those changes at the top.

New products and technologies? Forget it. Nobody's buying next year unless there's a fire sale — or a fire to put out. Tablet PCs will be the year's biggest loser; after 15 years, they still won't find a compelling mainstream use. But if you're already using tablets, enjoy the price competition as vendors desperately try to move their products.

This season's price war among Palm OS handhelds will win back some market share from Pocket PCs. The losers? Budget-strapped IT shops that have to support calendaring applications as the population of cheap handhelds reaches critical mass.

But we stand to lose a lot more as cheap wireless keeps proliferating. Next year, expect the first hacker experiments in flooding wireless hot spots with outside connections. Watch for those warchalking marks, and lock down those wireless access points.

One last loser: Corporate IT's clout will continue to dip. Hey, if we can't build business, we can't really show IT's value. But it's not permanent, and if we stick to the basics, we might keep 2003 out of the loss column.

And maybe even turn 2004 into a real winner.

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